



UNDERGRADUATE EDUCATION COMMITTEE (UEC) MEETING
October 27, 2017 - 10:00 AM
A225

AGENDA

~~~~~

Page

**1. APPROVAL OF THE AGENDA**

**2. APPROVAL OF UEC MINUTES**

4 - 7      **2.1. UEC draft minutes:**Sept. 29, 2017

MOTION: To approve the UEC draft minutes as presented.

**3. COURSES AND PROGRAMS**

8 - 27      **3.1. Arts: Course outlines**  
              Review with changes including title, prerequisites, and total hours: ARTS 280  
              New course: ARTS 380, Practicum/Internship II  
              New course: ARTS 380, Practicum/Internship III

MOTION: To approve the ARTS course outlines as presented.

28 -      **3.2. Geography: course outlines**  
40        Changes including prerequisites: GEOG 252  
              New course: GEOG 117, Dinosaurs!  
              New course: GEOG 357/BIO 357, Conservation GIS

MOTION: To approve the GEOG course outlines as presented.

41 -      **3.3. Biology: Course outlines**  
45        New course: BIO 442, Tropical Field School

MOTION: To approve the BIO 442 course outline as presented.

46 -      **3.4. Social Work and Human Services: Course outlines**  
65        Review with changes including title and corequisites: SOWK 330  
              Review with changes including title and prerequisites: SOWK 430  
              New course: SOWK 431, MSW Foundation Year Practicum

Page

MOTION: To approve the SOWK course outlines as presented.

66 -  
70

**3.5. Health Sciences: Program changes**

Change to entrance requirements: Certified Dental Assistant certificate

MOTION: To recommend the changes to the Certified Dental Assistant certificate entrance requirements as presented, effective September 2018.

71 -  
85

**3.6. Agriculture Technology: Program changes**

Change to entrance requirements: Agriculture Technology diploma

Change to entrance and program requirements: Horticulture Crop Production and Protection certificate

Change to entrance and program requirements: Livestock Production certificate

Change to entrance and program requirements: Milker Technician certificate

Change to entrance requirements: Berry Production Essentials certificate

Change to entrance requirements: Current Agricultural Practices Essentials certificate

Change to entrance requirements: Field Vegetable Production Essentials certificate

Change to entrance requirements: Integrated Pest Management Essentials certificate

MOTION: To recommend the changes to the Agriculture Technology diploma, Horticulture Crop Production and Protection certificate, and Livestock Production certificate as presented, effective September 2018.

MOTION: To recommend the changes to the Milker Technician certificate, Berry Production Essentials certificate, Current Agricultural Practices Essentials certificate, Field Vegetable Production Essentials certificate, and Integrated Pest Management Essentials certificate as presented, effective September 2019.

86 -  
105

**3.7. Agricultural Science: Program changes**

Change to entrance and program requirements; addition of Co-operative Education option: Bachelor of Agricultural Science, Horticulture major

MOTION: To recommend the changes to the Bachelor of Agriculture Science, Horticulture major as presented, effective September 2018.

106 -  
145

**3.8. Mathematics and Statistics: Course outlines**

Changes including prerequisites and total hours: MATH 105, 110, 111

Changes including prerequisites: MATH 123, 124, 140, 141

Changes including prerequisites, total hours, and equivalent courses: MATH 125

Changes including prerequisites: STAT 106

MOTION: To approve the MATH and STAT course outlines as presented.

146 -  
158

**3.9. Mathematics and Statistics: Program changes**

Change to entrance requirements and addition of Co-operative Education

Page

option: Data Analysis Post-baccalaureate certificate

MOTION: To recommend the changes to the Data Analysis Post-baccalaureate certificate as presented, effective September 2018.

**4. OTHER BUSINESS/DISCUSSION ITEMS**

159 -  
161

**4.1. Clarification of Approval Procedures for New Programs**

**4.2. Transfer Credit Subcommittee report**

**4.3. Policy Subcommittee report**

**4.4. Senate report**

**5. INFORMATION ITEMS**

162 -  
164

**5.1. Revised official course outline form**

**6. ADJOURNMENT**



## **UNDERGRADUATE EDUCATION COMMITTEE (UEC) MEETING**

September 29, 2017  
10:00 AM - A225  
Abbotsford Campus

### **DRAFT MINUTES**

---

**PRESENT:** Adrianna Bakos, Maria Bos-Chan, Sue Brigden, Rhonda Colwell, Heather Compeau, Vlad Dvoracek, John English, Peter Geller, Bruce Kirkley, Emilio Landolfi, David McGuire, Elaine Newman, Samantha Patridge, Teresa Piper, Kirsten Robertson, Mary Saudelli, Eric Spalding, Ben Vanderlei, Simon Xi

**ABSENT:** Donna Alary, Nancy Goad, Shirley Hardman, Ceilidh Hart, David Johnston, Arashpreet Tamber, Dildar Viridi

**GUESTS:** Ian Affleck, Samantha Hampton, Wayne Henry, Carl Janzen, Seonaigh MacPherson, Marlene Murray, Shelley Stefan, Corinne Richardson

**RECORDER:** Amanda Grimson

#### **1. APPROVAL OF THE AGENDA**

#### **2. APPROVAL OF UEC MINUTES**

##### **2.1. UEC draft minutes: August 31, 2017**

**MOTION:**

To approve the draft minutes as presented.  
CARRIED

#### **3. COURSES AND PROGRAMS**

##### **3.1. Visual Arts: Course changes**

Changes including prerequisites and course number: VA 261 (formerly VA 161)

**MOTION:**

To approve the VA 261 course outline as presented.  
CARRIED

##### **3.2. Visual Arts: Program changes**

Change to program requirements: Visual Arts diploma

Change to program requirements: Visual Arts extended minor

**MOTION:**

To approve the changes to the Visual Arts diploma as amended, effective January 2018:

- Elective requirements: "Three credits may be any ENGL 100-level or higher, or CMNS 125 (see Note)

**Note:** CMNS 125 must have been taken in September 2017 or later.

**CMNS 155 (formerly offered) may also be used to meet this requirement."**

CARRIED

UEC Draft Minutes  
29 Sep 2017

---

**MOTION:**

To approve the changes to the Visual Arts extended minor as presented, effective January 2018.

CARRIED

**3.3. Fine Arts: Program changes**

Change to entrance requirements: Bachelor of Fine Arts

**MOTION:**

To recommend the change to the Bachelor of Fine Arts entrance requirements as presented, effective September 2018.

CARRIED

**3.4. Philosophy: Course outlines**

Review with changes including title: PHIL 364

**MOTION:**

To approve the PHIL 364 course outline as presented.

CARRIED

**3.5. Computer Information Systems**

Change to equivalent courses: COMP 360

**MOTION:**

To approve the COMP 360 course outline as presented.

CARRIED

**3.6. Mathematics and Statistics: Course outlines**

Review with changes including prerequisites: STAT 104

Review with changes including total hours: MATH 480

**MOTION:**

To approve the STAT 104 course outline as presented.

CARRIED

**MOTION:**

To approve the MATH 480 course outline as presented.

CARRIED

**3.7. Nursing: Course outlines**

Changes including title, credits, prerequisites, corequisites, and total hours:

NURS 401

Changes including credits, prerequisites, corequisites, and total hours: NURS 403

New course: NURS 402, Professional Nursing: Management

**MOTION:**

To approve the NURS course outlines as presented.

CARRIED

**3.8. Communications: Course outlines**

New course: CMNS 120, Communicating in University

Review with changes including title and prerequisites: CMNS 385/ENGL 385

UEC Draft Minutes  
29 Sep 2017

---

**MOTION:**

To approve the CMNS 120 course outline as amended:

- Prerequisites: "Entry-level post-secondary English language proficiency" changed to "Degree/diploma-level English language proficiency".

**MOTION:**

To approve the CMNS 385/ENGL 385 course outline as presented.

CARRIED

**3.9. Adult Education: Course outlines**

New course: ADED 421, Advanced Studies of Mindfulness-Based Cognitive Therapy

New course: ADED 422, Wellbeing and Lifelong Learning

New course: ADED 423, Advanced Studies of Mindfulness-Based Stress Reduction

**MOTION:**

To approve the new ADED course outlines as presented.

CARRIED

**3.10. Adult Education: Program changes**

Change to program electives: Bachelor of Arts in Adult Education

**MOTION:**

To approve the change to the Bachelor of Arts in Adult Education as presented, effective January 2018.

CARRIED

**3.11. Modern Languages: Course outlines**

Discontinuation: FREN 100

**MOTION:**

To approve the discontinuation of FREN 100 as presented.

CARRIED

**3.12. Modern Languages: French program changes**

Change to program requirements: French major

Change to program requirements: French extended minor

Change to program requirements: French minor

**MOTION:**

To approve the changes to the French major, minor, and extended minor as presented, effective January 2018.

CARRIED

**3.13. Modern Languages: New proficiency certificate**

New program: Advanced Proficiency certificate in Japanese

**MOTION:**

To approve the new Advanced Proficiency certificate in Japanese as presented.

CARRIED

UEC Draft Minutes  
29 Sep 2017

---

**4. OTHER BUSINESS/DISCUSSION ITEMS**

**4.1. Transfer Credit Subcommittee membership**

Membership:

- Registrar or designate: David Johnston
- Two UEC members: Peter Gellar, Simon Xi
- At least two additional faculty: Maria Bos-Chan, Teresa Piper
- One advisor: Vacant

**4.2. Policy Subcommittee report**

There was no report from this subcommittee, although B. Kirkley noted that the guidelines for dual-listed courses have been revised to include rules for using credits earned at the undergraduate level to meet graduate level requirements. This will be brought to UEC soon for information only.

**5. ADJOURNMENT**

The meeting was adjourned at 11:27 am.

**Memo for Course Changes**

**To:** CACC and UEC

**From:** Alisa Webb

**Date:** August 8, 2017

**Subject:** Proposal for revision of ARTS 280: Arts Practicum

**1. Summary of changes (select all that apply):**

- ☒ Six-year review
- ☐ Number and/or course code
- ☒ Credits and/or total hours
- ☒ Title
- ☒ Calendar description
- ☒ Prerequisites and/or co-requisites
- ☐ Frequency of course offering
- ☒ Learning outcomes
- ☐ Delivery methods and/or texts and resource materials
- ☐ PLAR options, grading system, and/or evaluation methods
- ☐ Discontinuation of course
- ☐ Other – Please specify:

**2. Rationale for change:**

ARTS 280 is an internship/practicum shell course which provides a practicum shell for disciplines which lack their own practicum courses. The course is past its review date. Key changes are as follows:

- **Name:** Simplified
- **Calendar description:** Shortened
- **Pre-reqs:** amended
  - o The existing 45 university-level credits remains, but now also stipulates a CGPA requirement and permission from both the department and the Dean (or designate).
    - The minimum CGPA requirement mimics that of disciplines such as CRIM. It ensures that students possess the needed academic abilities to be able to consistently and successfully apply their learning to the practicum.
    - ARTS 280 will most likely run as an independent studies section; policy 207 notes that department and Dean's permission are required for such sections.
- **Hours:** The hours have been changed to reflect the nature of practicum/internship placements. Typically in the Arts, 3-credit courses require 45 contact hours and expect that students will

have to complete at least 90 hours outside of the classroom – a 1:2 ratio – for a total of approximately 135 hours per course. With internships and practicums, the contact hours are increased, but the number of hours required for reading and assignments is less. The ratio, therefore, is flipped: for every 2 hours in a practicum or internship placement, the student will likely spend 1 hour outside of the placement on activities and assignments related to the placement. Parity, therefore, with a 3-credit course requires approximately 100 contact hours and approximately 35 hours outside of the placement.

The goal, too, is to ensure consistency in practice and expectation across levels of practicum and internship courses. CRIM 281, 480, and 481, for example, require 200 hours for a 6-credit practicum. ARTS 280, therefore, is conceived as a 3-credit practicum of 100 hours.

- **Outcomes:** updated

**3. If there are substantial changes to the learning outcomes, explain how they align with the learning outcomes of the program(s):**

The learning outcomes have been changed to reflect the institutional learning outcomes as well as the BA program outcomes related to civic engagement.

**4. Is this course required by any program beyond the discipline? If so, how will this change affect that program or programs?**

Required by Mennonite Studies; can also be used by any program in the Arts and by BGS students

**5. Which program areas have been consulted about the change(s)?**

Global Development Studies, Geography, Visual Arts, Advising, Mennonite Studies, Peace and Conflict Studies

**6. What consideration has been given to indigenizing the curriculum?**

Students may choose practicum or internship placements which see them work with indigenous organizations.

**7. If this course is not eligible for PLAR, explain why:** N/A

**8. If any of the following items on the official course outline have changed, explain how the change will affect the budget for your area or any other area:** No change

- a. Credit value
- b. Class size limit
- c. Frequency of offering
- d. Resources required (labs, equipment)

**9. Are field trips required for this course? (Field trip requirements must be announced in the timetable.) How are the trips funded?** Field trips are not required

**10. Estimate of the typical costs for this course, including textbooks and other materials:** Travel to and from site; accommodations and expenses for international experiences



ORIGINAL COURSE IMPLEMENTATION DATE: September 2010  
 REVISED COURSE IMPLEMENTATION DATE: September 2018  
 COURSE TO BE REVIEWED: (six years after UEC approval) October 2023  
 Course outline form version: 09/15/14

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------|----|------------------|--|------------------------|--|--------------------------------------------|----|----------------------------|--|----------------------|--|--------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Course Code and Number:</b> ARTS 280                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            | <b>Number of Credits:</b> 3 <a href="#">Course credit policy (105)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Course Full Title:</b> Practicum/Internship I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Course Short Title (if title exceeds 30 characters):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Faculty:</b> Choose an item.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            | <b>Department (or program if no department):</b> College of Arts                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Calendar Description:</b><br><p>This course gives students the opportunity to apply classroom learning in a domestic or international practicum or internship.</p> <p>Note: Students should approach a department head or program chair to learn the process.<br/>                 Note: This course will be offered under different letter designations (e.g. C-Z). The course may be repeated for credit twice, provided the letter designation differs.</p>                                                                                                                                                                           |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Prerequisites (or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            | 45 university-level credits, departmental permission, and Dean of Arts or designate permission. Note: As of January 2019, prerequisites will change to the following: 45 university-level credits, a CGPA of 2.67, departmental permission, and Dean of Arts or designate permission.                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Pre/corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Equivalent Courses (cannot be taken for additional credit)</b><br>Former course code/number:<br>Cross-listed with:<br>Equivalent course(s):<br><i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>                                                                                                                                                                                                                                                                                      |            | <b>Transfer Credit</b><br>Transfer credit already exists: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Transfer credit requested (OREg to submit to BCCAT):<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (if yes, fill in transfer credit form)<br>Resubmit revised outline for articulation: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>To find out how this course transfers, see <a href="http://bctransferguide.ca">bctransferguide.ca</a> . |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Total Hours: 100</b><br><b>Typical structure of instructional hours:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Lecture hours</td> <td></td> </tr> <tr> <td>Seminars/tutorials/workshops</td> <td>10</td> </tr> <tr> <td>Laboratory hours</td> <td></td> </tr> <tr> <td>Field experience hours</td> <td></td> </tr> <tr> <td>Experiential (practicum, internship, etc.)</td> <td>90</td> </tr> <tr> <td>Online learning activities</td> <td></td> </tr> <tr> <td>Other contact hours:</td> <td></td> </tr> <tr> <td style="text-align: right;"><b>Total</b></td> <td><b>100</b></td> </tr> </table> |            | Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Seminars/tutorials/workshops | 10 | Laboratory hours |  | Field experience hours |  | Experiential (practicum, internship, etc.) | 90 | Online learning activities |  | Other contact hours: |  | <b>Total</b> | <b>100</b> | <b>Special Topics</b><br>Will the course be offered with different topics?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>If yes, different lettered courses may be taken for credit:<br><input type="checkbox"/> No <input checked="" type="checkbox"/> Yes, 2 repeat(s) <input type="checkbox"/> Yes, no limit<br><i>Note: The specific topic will be recorded when offered.</i> |  |
| Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| Seminars/tutorials/workshops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 10         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| Laboratory hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| Field experience hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| Experiential (practicum, internship, etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 90         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| Online learning activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| Other contact hours:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>100</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            | <b>Maximum enrolment (for information only):</b> Varies<br><b>Expected frequency of course offerings (every semester, annually, every other year, etc.):</b> As requested                                                                                                                                                                                                                                                                                                                                                        |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Department / Program Head or Director:</b> CACC Chair                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            | <b>Date approved:</b> September 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Faculty Council approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            | <b>Date approved:</b> September 15, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Campus-Wide Consultation (CWC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | <b>Date of posting:</b> October 13, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Dean/Associate VP:</b> Dr. Jacqueline Nolte                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            | <b>Date approved:</b> September 15, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Undergraduate Education Committee (UEC) approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            | <b>Date of meeting:</b> October 27, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |

**Learning Outcomes**

Upon successful completion of this course, students will be able to:

1. Articulate the goals and values of the host organization;
2. Demonstrate professionalism in the workplace;
3. Apply skills and knowledge gained in the classroom to a practicum or internship;
4. Reflect on how the placement experience helps them to understand their field of study;
5. Reflect on their ability to apply knowledge and skills;
6. Reflect on their personal and professional development as related to the placement;
7. Reflect on their role within a team; and
8. Articulate the personal benefits and challenges of participating in the practicum or internship.

**Prior Learning Assessment and Recognition (PLAR)**

☒ Yes      ☐ No, PLAR cannot be awarded for this course because

**Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)**

Work-integrated learning, workshops/tutorials/seminars, reflective learning, and assignments specific to the discipline.

**Grading system:** Letter Grades: ☒ Credit/No Credit: ☐ Labs to be scheduled independent of lecture hours: Yes ☐ No ☒

**NOTE:** The following sections may vary by instructor. Please see course syllabus available from the instructor.

**Typical Text(s) and Resource Materials (if more space is required, download Supplemental Texts and Resource Materials form)**

| Author (surname, initials) | Title (article, book, journal, etc.)                  | Current ed.              | Publisher | Year |
|----------------------------|-------------------------------------------------------|--------------------------|-----------|------|
| 1.                         | As required and based on student's program/discipline | <input type="checkbox"/> |           |      |
| 2.                         |                                                       | <input type="checkbox"/> |           |      |
| 3.                         |                                                       | <input type="checkbox"/> |           |      |
| 4.                         |                                                       | <input type="checkbox"/> |           |      |
| 5.                         |                                                       | <input type="checkbox"/> |           |      |

**Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)**

As required for placement.

**Typical Evaluation Methods and Weighting**

|                |   |              |     |                   |   |            |      |
|----------------|---|--------------|-----|-------------------|---|------------|------|
| Final exam:    | % | Assignments: | 50% | Midterm exam:     | % | Practicum: | 50%  |
| Quizzes/tests: | % | Lab work:    | %   | Field experience: | % | Shop work: | %    |
| Other:         | % | Other:       | %   | Other:            | % | Total:     | 100% |

**Details (if necessary):** Students must submit an evaluation completed by the placement supervisor and must complete all assignments to receive credit.

**Typical Course Content and Topics**

Placement: 90 hours completed within a single semester

- The breakdown of the placement hours will be determined by the placement supervisor, the faculty supervisor, and the student.

Placement workshops, meetings, and seminars: 10 hours completed within a single semester

- The student will attend any necessary pre-placement workshops or meetings.
- The student will meet with the faculty supervisor on a regular basis to discuss the practicum or internship and its progress.
- The student will attend any required post-placement seminars.

**Memo for New Course**

To: CACC, CAC, and UEC

From: Alisa Webb, Associate Dean, Arts, and Chair, College of Arts Curriculum Committee

Date: August 8, 2017

**Subject: Proposal for new course – ARTS 380: Practicum/Internship II**

**1. Rationale for new course:** At present, ARTS has one general practicum/internship shell: ARTS 280. After a period of inactivity, ARTS 280 has become increasingly popular. Visual Arts, for example, has been running sections of ARTS 280 each fall and winter for 2+ years now to accommodate student practicums at the Reach Gallery and at the Kariton Gallery. The revised Mennonite Studies Certificate requires all students to complete an ARTS 280 practicum. ARTS 280, however, does not work for all experiences and, as such, students, professors, and department heads have asked for a framework for practicum/internship courses at both the lower-level and the upper-level.

Demand for internships and practicums is growing in Arts. More students are interested in this type of learning, both at home and abroad, and more departments/disciplines are seeking such learning opportunities for their students. 2016-17 saw 30+ students, not including CRIM, complete practicums/internships in ARTS; 14 students have been approved thus far just for Fall 2017.

Students from Media and Communications, Communications, Criminology, History, Graphic Design, Geography, Global Development, Political Science, Visual Arts, Art History, Indigenous Studies, and Spanish have all completed practicums in the last 2 years. While some of these students are able to use dedicated practicum or internship shell courses in their own disciplines (CRIM, SPAN, GDS and GATE, HIST, and CMNS), others rely on directed studies shell courses through which to run practicum or internship sections.

While this is very exciting, it points to the need to ensure a relatively consistent set of practices and expectations across units and across internship and practicum experiences. It also points to issues with our curriculum structure for such experiences. Key issues of note are:

- Varying expectations about the number of hours students complete as part of the practicum or internship, sometimes which do not align with UFV's Credit Policy (105);
- Different approaches to vetting students for such experiences;
- Using Directed Studies as practicum shells;
- Disciplinary-ownership of practicum or internship courses; and
- Limitations on the number of such experiences for a student.

The goal in Arts, therefore, is to introduce two new practicum/internship shells alongside a revised ARTS 280: ARTS 380 and ARTS 480, ensuring consistency in expectations (hours, assessment, etc.) and learning outcomes across such experiences in the College of Arts. Further, by having courses clearly labeled as "practicum/internship", this title will appear on student transcripts, serving an important marker for future employers; it's much more indicative to external audiences than, for

example, “Directed Study.” It is not our intention at this time for these courses to replace existing internship/practicum courses (unless desired by disciplines), but rather to create a set of courses that any student in any Arts discipline can use in hopes of moving away from some discipline-specific practicums/internships in the future.

Within the framework, ARTS 380 will offer upper-level credit as a special topics course for practicum/internship experiences. Students may take the course twice for credit.

The proposed structure is as follows:



As is clear from the model, this retains a 3-credit course at the 200-level and adds a 3-credit course at the 300-level and a 9-credit course at the 400-level. The original intention was a 3-, 6-, 9-credit model, with the 300-level course sitting at 6 credits. After consultation with Arts faculty, this changed to a 3-, 3-, 9-credit structure for the following reasons:

1. ARTS 380 was originally envisioned as a 6-credit experience, creating 3-credit (ARTS 280), 6-credit (ARTS 380) and 9-credit (ARTS 480) options. In consultation with those using the course, they felt that a 3-credit 300-level course would work well if students could take it twice for credit. This would allow, for example, students to do ARTS 380d in the Fall and then ARTS 380e in the Winter. This limits the number of credits students are devoting to practicum in a single term. Plus, it increases the opportunities for placement for students. Under a 6-credit model, we'd be unlikely to allow students to take it twice for credit. As 3-credits, students could do two different placements with two different organizations. This was seen as advantageous to students.
2. ARTS 480 replaces what was actually lost in Arts quite some time ago. At one time, Arts had a 9-credit practicum/internship shell that was housed in Geography, but in the course of curriculum revisions (which pre-date my time in the Deans' office) the credit value was dropped to 6. This has meant a lost opportunity for students to fully immerse themselves in such an experience. Students doing international practicums/internships have noted the challenges of a 6-credit course. Many are hoping to still have 9 credits so as to be able to claim full-time status. This often means also trying to add a directed studies course to their semester, particularly as the

vast majority of our 6-credit experiences are actually international. A 9-credit option would allow students to devote their full-time studies to an applied experience. It also means that the potential outcomes that can be achieved are much higher given the significant amount of time the students can invest in learning and in applying their skills and knowledge.

3. At this time, Arts will retain the 6-credit internship/practicum courses that are already on the books. This means that a 6-credit option will still exist for students in SPAN, CRIM, GDS, and GEOG. Students in other disciplines who are focused on development work are also able to make use of the GEOG 396 and 398 shells (and their respective cross-lists with SOC and GDS). Once, and if, ARTS 380 and 480 are approved, we can look at further curriculum rationalizations across the Arts related to experiential learning. Adding a 9-credit option, however, that could be used by any discipline has met with positive feedback in Arts.

Profile of outcomes across the framework:

Upon successful completion of the course, students will be able to:

| Outcome Category                           | ARTS 280                                                                        | ARTS 380                                                                                              | ARTS 480                                                                                                                                                                                                     |
|--------------------------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Organization goals</b>                  | Articulate the goals and values of the host organization                        | Articulate the goals and values of the host organization in relation to their personal aims and goals | Assess critically the goals and values of the host organization, including how these reflect or challenge their personal aims and goals                                                                      |
| <b>Professionalism</b>                     | Demonstrate professionalism in the workplace                                    | Demonstrate professionalism in the workplace                                                          | Demonstrate professionalism in the workplace                                                                                                                                                                 |
| <b>Leadership</b>                          |                                                                                 |                                                                                                       | Demonstrate leadership in the workplace by showing initiative and self-motivation, being accountable, acting with integrity, upholding and furthering organizational goals and values, and motivating others |
| <b>Application of Skills and Knowledge</b> | Apply skills and knowledge gained in the classroom to a practicum or internship | Apply skills and knowledge gained in the classroom to a practicum or internship                       | Apply skills and knowledge gained in the classroom to a practicum or internship                                                                                                                              |
|                                            | Reflect on their ability to apply                                               | Evaluate their ability to apply knowledge and skills,                                                 | Evaluate their ability to apply knowledge and skills,                                                                                                                                                        |

|                                                           |                                                                                                 |                                                                                                                                     |                                                                                                                                                |
|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                           | knowledge and skills                                                                            | including their strengths and weaknesses                                                                                            | including their strengths and weaknesses                                                                                                       |
|                                                           |                                                                                                 |                                                                                                                                     | Assess strengths and shortcomings in their skills and knowledge as related to the placement                                                    |
| <b>Disciplinary Understanding</b>                         | Reflect on how the placement experience helps them to understand their field of study           | Analyze how the placement experience has informed their understanding of their field of study, including its core ideas and methods | Analyze how the placement experience has informed their understanding of their field of study, including its core ideas, theories, and methods |
| <b>Personal Development</b>                               | Reflect on their personal and professional development as related to the placement              | Reflect critically on their personal and professional development as related to the placement                                       | Reflect critically on their personal and professional development as related to the placement                                                  |
|                                                           |                                                                                                 | Articulate a plan for further personal and/or professional development                                                              | Articulate a plan for further personal and/or professional development                                                                         |
| <b>Team Dynamics</b>                                      | Reflect on their role within a team                                                             | Reflect critically on their role in a team and the advantages and challenges of collaboration                                       | Reflect critically on their role in a team and the advantages and challenges of collaboration                                                  |
| <b>Benefits and Challenges of Practicum or Internship</b> | Articulate the personal benefits and challenges of participating in the practicum or internship | Articulate the personal, social, and professional benefits and challenges of participating in the practicum or internship           | Articulate the personal, social, and professional benefits and challenges of participating in the practicum or internship                      |

A note on nomenclature:

We have selected “Practicum/Internship” for the following reasons:

- Experiential learning is too broad, encompassing many pedagogical practices;
- Work-integrated learning is not as recognizable to an external audience and likely infringes on co-op;
- Practicum has greater meaning within a local, domestic context; and
- Internship is more recognized within an international context.

Some have questioned our use of internship because, as constituted, they are really international practicums. Within Canada, unpaid internships are illegal; students must receive compensation for such activities. Practicums can be unpaid, provided the student receives credit towards their academic program. The practice at UFV reflects that of practicums: students are not compensated for their work with a wage, but rather with academic credit, regardless of whether we call it an

internship or a practicum. As long as this practice continues within the domestic and the international context, it is fine for us to use both practicum and internship, recognizing that these words have different audiences.

- 2. How does this new course fit into program(s):** ARTS 380 would not be required of any program, but could be used as credit towards any Arts program and would satisfy the civic engagement requirement in the BA as well as the professional competency requirement in the BGS. Beyond this, disciplines could determine if specific offerings of the course could be used towards major, extended minor, or minor requirements.
- 3. Explain how the course learning outcomes align with the learning outcomes of the program(s):**  
Learning outcomes for ARTS 380 align with the BA's Civic Engagement requirement.
  - Articulate the aims and goals of a particular community group or activity
  - Apply skills and knowledge acquired during BA studies in the community
  - Identify ways one's civic engagement benefits the individual and society
  - Reflect on one's self development related to civic identity and participation
- 4. Will this course be required by any program beyond the discipline? If so, how will this course affect that program or programs?** No
- 5. Which program areas have been consulted about the course?** Global Development Studies, Visual Arts, Mennonite Studies, Geography and the Environment, Peace and Conflict Studies, Advising
- 6. If a new discipline designation is required, explain why:** N/A
- 7. What consideration has been given to indigenizing the curriculum?** Students may choose practicum or internship placements which see them work with indigenous organizations.
- 8. If this course is not eligible for PLAR, explain why:** N/A
- 9. Explain how each of the following will affect the budget for your area or any other area:**
  - a. Credit value: Typically in the Arts, 3-credit courses require 45 contact hours and expect that students will have to complete at least 90 hours outside of the classroom – a 1:2 ratio – for a total of approximately 135 hours per course. With internships and practicums, the contact hours are increased, but the number of hours required for reading and assignments is less. The ratio, therefore, is flipped: for every 2 hours in a practicum or internship placement, the student will likely spend 1 hour outside of the placement on activities and assignments related to the placement. Parity, therefore, with a 3-credit course requires approximately 100 contact hours and approximately 35 hours outside of the placement.
  - b. Class size limit: We ask that no class limit be established. Given the nature of the course, most will run as independent study sections with no more than 6 students.
  - c. Frequency of offering: ARTS 380 will be offered at student and professor request.
  - d. Resources required (labs, equipment): None

- 10. Are field trips required for this course? (Field trip requirements must be announced in the timetable.) How are the trips funded? N/A**
- 11. Estimate of the typical costs for this course, including textbooks and other materials: Travel to and from site; accommodations and expenses for international experiences**



ORIGINAL COURSE IMPLEMENTATION DATE: September 2018  
 REVISED COURSE IMPLEMENTATION DATE:  
 COURSE TO BE REVIEWED: (six years after UEC approval) October 2023  
 Course outline form version: 09/15/14

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

**Note: The University reserves the right to amend course outlines as needed without notice.**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------|----|------------------|--|------------------------|--|--------------------------------------------|----|----------------------------|--|----------------------|--|--------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Course Code and Number:</b> ARTS 380                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            | <b>Number of Credits:</b> 3 <a href="#">Course credit policy (105)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Course Full Title:</b> Practicum/Internship II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Course Short Title (if title exceeds 30 characters):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Faculty:</b> Choose an item.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            | <b>Department (or program if no department):</b> College of Arts                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Calendar Description:</b><br><p>This course gives students the opportunity to apply classroom and disciplinary learning in a domestic or international practicum or internship.</p> <p>Note: Students should approach a department head or program chair to learn the process.</p> <p>Note: This course will be offered under different letter designations (e.g. C-Z). The course may be repeated for credit twice, provided the letter designation differs.</p>                                                                                                                                                                        |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Prerequisites (or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            | 60 university-level credits, a CGPA of 2.67, departmental permission, and Dean of Arts or designate permission.                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Pre/corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Equivalent Courses (cannot be taken for additional credit)</b><br>Former course code/number:<br>Cross-listed with:<br>Equivalent course(s):<br><i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>                                                                                                                                                                                                                                                                                      |            | <b>Transfer Credit</b><br>Transfer credit already exists: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Transfer credit requested (OREg to submit to BCCAT):<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (if yes, fill in transfer credit form)<br>Resubmit revised outline for articulation: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>To find out how this course transfers, see <a href="http://bctransferguide.ca">bctransferguide.ca</a> . |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Total Hours: 100</b><br><b>Typical structure of instructional hours:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Lecture hours</td> <td></td> </tr> <tr> <td>Seminars/tutorials/workshops</td> <td>10</td> </tr> <tr> <td>Laboratory hours</td> <td></td> </tr> <tr> <td>Field experience hours</td> <td></td> </tr> <tr> <td>Experiential (practicum, internship, etc.)</td> <td>90</td> </tr> <tr> <td>Online learning activities</td> <td></td> </tr> <tr> <td>Other contact hours:</td> <td></td> </tr> <tr> <td style="text-align: right;"><b>Total</b></td> <td><b>100</b></td> </tr> </table> |            | Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Seminars/tutorials/workshops | 10 | Laboratory hours |  | Field experience hours |  | Experiential (practicum, internship, etc.) | 90 | Online learning activities |  | Other contact hours: |  | <b>Total</b> | <b>100</b> | <b>Special Topics</b><br>Will the course be offered with different topics?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>If yes, different lettered courses may be taken for credit:<br><input type="checkbox"/> No <input checked="" type="checkbox"/> Yes, 2 repeat(s) <input type="checkbox"/> Yes, no limit<br><i>Note: The specific topic will be recorded when offered.</i> |  |
| Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| Seminars/tutorials/workshops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 10         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| Laboratory hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| Field experience hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| Experiential (practicum, internship, etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 90         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| Online learning activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| Other contact hours:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>100</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            | <b>Maximum enrolment (for information only):</b> Varies<br><b>Expected frequency of course offerings (every semester, annually, every other year, etc.):</b> As requested                                                                                                                                                                                                                                                                                                                                                        |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Department / Program Head or Director:</b> CACC Chair                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            | <b>Date approved:</b> September 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Faculty Council approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            | <b>Date approved:</b> September 15, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Campus-Wide Consultation (CWC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | <b>Date of posting:</b> October 13, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Dean/Associate VP:</b> Dr. Jacqueline Nolte                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            | <b>Date approved:</b> September 15, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Undergraduate Education Committee (UEC) approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            | <b>Date of meeting:</b> October 27, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                              |    |                  |  |                        |  |                                            |    |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                               |  |

**Learning Outcomes**

Upon successful completion of this course, students will be able to:

1. Articulate the goals and values of the host organization in relation to their personal aims and goals;
2. Demonstrate professionalism in the workplace;
3. Apply skills and knowledge gained in the classroom to a practicum or internship;
4. Analyze how the placement experience has informed their understanding of their field of study, including its core ideas and methods;
5. Evaluate their ability to apply knowledge and skills, including their strengths and weaknesses;
6. Reflect critically on their personal and professional development as related to the placement;
7. Reflect critically on their role in a team and the advantages and challenges of collaboration;
8. Articulate a plan for further personal and/or professional development; and
9. Articulate the personal, social, and professional benefits and challenges of participating in the practicum or internship.

**Prior Learning Assessment and Recognition (PLAR)**

☒ Yes      ☐ No, PLAR cannot be awarded for this course because

**Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)**

Work-integrated learning, workshops/tutorials/seminars, reflective learning, and assignments specific to the discipline.

**Grading system:** Letter Grades: ☒ Credit/No Credit: ☐ Labs to be scheduled independent of lecture hours: Yes ☐ No ☒

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Typical Text(s) and Resource Materials (if more space is required, download Supplemental Texts and Resource Materials form)**

| Author (surname, initials) | Title (article, book, journal, etc.)                  | Current ed.              | Publisher | Year |
|----------------------------|-------------------------------------------------------|--------------------------|-----------|------|
| 1.                         | As required and based on student's program/discipline | <input type="checkbox"/> |           |      |
| 2.                         |                                                       | <input type="checkbox"/> |           |      |
| 3.                         |                                                       | <input type="checkbox"/> |           |      |
| 4.                         |                                                       | <input type="checkbox"/> |           |      |
| 5.                         |                                                       | <input type="checkbox"/> |           |      |

**Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)**

As required for placement.

**Typical Evaluation Methods and Weighting**

|                |   |              |     |                   |   |            |      |
|----------------|---|--------------|-----|-------------------|---|------------|------|
| Final exam:    | % | Assignments: | 50% | Midterm exam:     | % | Practicum: | 50%  |
| Quizzes/tests: | % | Lab work:    | %   | Field experience: | % | Shop work: | %    |
| Other:         | % | Other:       | %   | Other:            | % | Total:     | 100% |

**Details (if necessary):** Students must submit an evaluation completed by the placement supervisor and must complete all assignments to receive credit.

**Typical Course Content and Topics**

Placement: 90 hours completed within a single semester

- The breakdown of the placement hours will be determined by the placement supervisor, the faculty supervisor, and the student.

Placement workshops, meetings, and seminars: 10 hours completed within a single semester

- The student will attend any necessary pre-placement workshops or meetings.
- The student will meet with the faculty supervisor on a regular basis to discuss the practicum or internship and its progress.
- The student will attend any required post-placement seminars.

**Memo for New Course**

To: CACC, CAC, and UEC

From: Alisa Webb, Associate Dean, Arts, and Chair, College of Arts Curriculum Committee

Date: August 8, 2017

**Subject: Proposal for new course – ARTS 480: Practicum/Internship III**

**1. Rationale for new course:** At present, ARTS has one general practicum/internship shell: ARTS 280. After a period of inactivity, ARTS 280 has become increasingly popular. Visual Arts, for example, has been running sections of ARTS 280 each fall and winter for 2+ years now to accommodate student practicums at the Reach Gallery and at the Kariton Gallery. The revised Mennonite Studies Certificate requires all students to complete an ARTS 280 practicum. ARTS 280, however, does not work for all experiences and, as such, students, professors, and department heads have asked for a framework for practicum/internship courses at both the lower-level and the upper-level.

Demand for internships and practicums is growing in Arts. More students are interested in this type of learning, both at home and abroad, and more departments/disciplines are seeking such learning opportunities for their students. 2016-17 saw 30+ students, not including CRIM, complete practicums/internships in ARTS; 14 students have been approved thus far just for Fall 2017. Students from Media and Communications, Communications, Criminology, History, Graphic Design, Geography, Global Development, Political Science, Visual Arts, Art History, Indigenous Studies, and Spanish have all completed practicums in the last 2 years. While some of these students are able to use dedicated practicum or internship shell courses in their own disciplines (CRIM, SPAN, GDS and GATE, HIST, and CMNS), others rely on directed studies shell courses through which to run practicum or internship sections.

While this is very exciting, it points to the need to ensure a relatively consistent set of practices and expectations across units and across internship and practicum experiences. It also points to issues with our curriculum structure for such experiences. Key issues of note are:

- Varying expectations about the number of hours students complete as part of the practicum or internship, sometimes which do not align with UFV's Credit Policy (105);
- Different approaches to vetting students for such experiences;
- Using Directed Studies as practicum shells;
- Disciplinary-ownership of practicum or internship courses; and
- Limitations on the number of such experiences for a student.

The goal in Arts, therefore, is to introduce two new practicum/internship shells alongside a revised ARTS 280: ARTS 380 and ARTS 480, ensuring consistency in expectations (hours, assessment, etc.) and learning outcomes across such experiences in the College of Arts. Further, by having courses clearly labeled as "practicum/internship", this title will appear on student transcripts, serving an important marker for future employers; it's much more indicative to external audiences than, for

example, “Directed Study.” It is not our intention at this time for these courses to replace existing internship/practicum courses (unless desired by disciplines), but rather to create a set of courses that any student in any Arts discipline can use in hopes of moving away from some discipline-specific practicums/internships in the future.

ARTS 480 is envisioned as a practicum/internship capstone, with students devoting an entire semester to a placement.

The proposed structure is as follows:



As is clear from the model, this retains a 3-credit course at the 200-level and adds a 3-credit course at the 300-level and a 9-credit course at the 400-level. The original intention was a 3-, 6-, 9-credit model, with the 300-level course sitting at 6 credits. After consultation with Arts faculty, this changed to a 3-, 3-, 9-credit structure for the following reasons:

1. ARTS 380 was originally envisioned as a 6-credit experience, creating 3-credit (ARTS 280), 6-credit (ARTS 380) and 9-credit (ARTS 480) options. In consultation with those using the course, they felt that a 3-credit 300-level course would work well if students could take it twice for credit. This would allow, for example, students to do ARTS 380d in the Fall and then ARTS 380e in the Winter. This limits the number of credits students are devoting to practicum in a single term. Plus, it increases the opportunities for placement for students. Under a 6-credit model, we'd be unlikely to allow students to take it twice for credit. As 3-credits, students could do two different placements with two different organizations. This was seen as advantageous to students.
2. ARTS 480 replaces what was actually lost in Arts quite some time ago. At one time, Arts had a 9-credit practicum/internship shell that was housed in Geography, but in the course of curriculum revisions (which pre-date my time in the Deans' office) the credit value was dropped to 6. This has meant a lost opportunity for students to fully immerse themselves in such an experience. Students doing international practicums/internships have noted the challenges of a 6-credit course. Many are hoping to still have 9 credits so as to be able to claim full-time status. This often means also trying to add a directed studies course to their semester, particularly as the

vast majority of our 6-credit experiences are actually international. A 9-credit option would allow students to devote their full-time studies to an applied experience. It also means that the potential outcomes that can be achieved are much higher given the significant amount of time the students can invest in learning and in applying their skills and knowledge.

3. At this time, Arts will retain the 6-credit internship/practicum courses that are already on the books. This means that a 6-credit option will still exist for students in SPAN, CRIM, GDS, and GEOG. Students in other disciplines who are focused on development work are also able to make use of the GEOG 396 and 398 shells (and their respective cross-lists with SOC and GDS). Once, and if, ARTS 380 and 480 are approved, we can look at further curriculum rationalizations across the Arts related to experiential learning. Adding a 9-credit option, however, that could be used by any discipline has met with positive feedback in Arts.

Profile of outcomes across the framework:

Upon successful completion of the course, students will be able to:

| Outcome Category                           | ARTS 280                                                                        | ARTS 380                                                                                              | ARTS 480                                                                                                                                                                                                     |
|--------------------------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Organization goals</b>                  | Articulate the goals and values of the host organization                        | Articulate the goals and values of the host organization in relation to their personal aims and goals | Assess critically the goals and values of the host organization, including how these reflect or challenge their personal aims and goals                                                                      |
| <b>Professionalism</b>                     | Demonstrate professionalism in the workplace                                    | Demonstrate professionalism in the workplace                                                          | Demonstrate professionalism in the workplace                                                                                                                                                                 |
| <b>Leadership</b>                          |                                                                                 |                                                                                                       | Demonstrate leadership in the workplace by showing initiative and self-motivation, being accountable, acting with integrity, upholding and furthering organizational goals and values, and motivating others |
| <b>Application of Skills and Knowledge</b> | Apply skills and knowledge gained in the classroom to a practicum or internship | Apply skills and knowledge gained in the classroom to a practicum or internship                       | Apply skills and knowledge gained in the classroom to a practicum or internship                                                                                                                              |
|                                            | Reflect on their ability to apply                                               | Evaluate their ability to apply knowledge and skills,                                                 | Evaluate their ability to apply knowledge and skills,                                                                                                                                                        |

|                                                           |                                                                                                 |                                                                                                                                     |                                                                                                                                                |
|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                           | knowledge and skills                                                                            | including their strengths and weaknesses                                                                                            | including their strengths and weaknesses                                                                                                       |
|                                                           |                                                                                                 |                                                                                                                                     | Assess strengths and shortcomings in their skills and knowledge as related to the placement                                                    |
| <b>Disciplinary Understanding</b>                         | Reflect on how the placement experience helps them to understand their field of study           | Analyze how the placement experience has informed their understanding of their field of study, including its core ideas and methods | Analyze how the placement experience has informed their understanding of their field of study, including its core ideas, theories, and methods |
| <b>Personal Development</b>                               | Reflect on their personal and professional development as related to the placement              | Reflect critically on their personal and professional development as related to the placement                                       | Reflect critically on their personal and professional development as related to the placement                                                  |
|                                                           |                                                                                                 | Articulate a plan for further personal and/or professional development                                                              | Articulate a plan for further personal and/or professional development                                                                         |
| <b>Team Dynamics</b>                                      | Reflect on their role within a team                                                             | Reflect critically on their role in a team and the advantages and challenges of collaboration                                       | Reflect critically on their role in a team and the advantages and challenges of collaboration                                                  |
| <b>Benefits and Challenges of Practicum or Internship</b> | Articulate the personal benefits and challenges of participating in the practicum or internship | Articulate the personal, social, and professional benefits and challenges of participating in the practicum or internship           | Articulate the personal, social, and professional benefits and challenges of participating in the practicum or internship                      |

A note on nomenclature:

We have selected “Practicum/Internship” for the following reasons:

- Experiential learning is too broad, encompassing many pedagogical practices;
- Work-integrated learning is not as recognizable to an external audience and likely infringes on co-op;
- Practicum has greater meaning within a local, domestic context; and
- Internship is more recognized within an international context.

Some have questioned our use of internship because, as constituted, they are really international practicums. Within Canada, unpaid internships are illegal; students must receive compensation for such activities. Practicums can be unpaid, provided the student receives credit towards their academic program. The practice at UFV reflects that of practicums: students are not compensated for their work with a wage, but rather with academic credit, regardless of whether we call it an

internship or a practicum. As long as this practice continues within the domestic and the international context, it is fine for us to use both practicum and internship, recognizing that these words have different audiences.

- 2. How does this new course fit into program(s):** ARTS 480 would not be required of any program, but could be used as credit towards any Arts program and would satisfy the civic engagement requirement in the BA as well as the professional competency requirement in the BGS. Beyond this, disciplines could determine if specific offerings of the course could be used towards major, extended minor, or minor requirements.
- 3. Explain how the course learning outcomes align with the learning outcomes of the program(s):**  
Learning outcomes for ARTS 480 align with the BA's Civic Engagement requirement.
  - Articulate the aims and goals of a particular community group or activity
  - Apply skills and knowledge acquired during BA studies in the community
  - Identify ways one's civic engagement benefits the individual and society
  - Reflect on one's self development related to civic identity and participation
- 4. Will this course be required by any program beyond the discipline? If so, how will this course affect that program or programs?** No
- 5. Which program areas have been consulted about the course?** Global Development Studies, Visual Arts, Mennonite Studies, Geography and the Environment, Peace and Conflict Studies, Advising
- 6. If a new discipline designation is required, explain why:** N/A
- 7. What consideration has been given to indigenizing the curriculum?** Students may choose practicum or internship placements which see them work with indigenous organizations.
- 8. If this course is not eligible for PLAR, explain why:** N/A
- 9. Explain how each of the following will affect the budget for your area or any other area:**
  - a. Credit value: Typically in the Arts, 3-credit courses require 45 contact hours and expect that students will have to complete at least 90 hours outside of the classroom – a 1:2 ratio – for a total of approximately 135 hours per course. With internships and practicums, the contact hours are increased, but the number of hours required for reading and assignments is less. The ratio, therefore, is flipped: for every 2 hours in a practicum or internship placement, the student will likely spend 1 hour outside of the placement on activities and assignments related to the placement. Parity, therefore, with a 3-credit course requires approximately 100 contact hours and approximately 35 hours outside of the placement.  
As 480 is envisioned as a 9-credit course, the contact hours required are 300.
  - b. Class size limit: We ask that no class limit be established. Given the nature of the course, most will run as independent study sections with no more than 6 students.
  - c. Frequency of offering: ARTS 480 will be offered at student and professor request.

d. Resources required (labs, equipment): None

**10. Are field trips required for this course? (Field trip requirements must be announced in the timetable.) How are the trips funded?** N/A

**11. Estimate of the typical costs for this course, including textbooks and other materials:** Travel to and from site; accommodations and expenses for international experiences



ORIGINAL COURSE IMPLEMENTATION DATE: September 2018  
 REVISED COURSE IMPLEMENTATION DATE:  
 COURSE TO BE REVIEWED: (six years after UEC approval) October 2023  
 Course outline form version: 09/15/14

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

**Note:** The University reserves the right to amend course outlines as needed without notice.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------|----|------------------|--|------------------------|--|--------------------------------------------|-----|----------------------------|--|----------------------|--|--------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Course Code and Number:</b> ARTS 480                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            | <b>Number of Credits:</b> 9 <a href="#">Course credit policy (105)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Course Full Title:</b> Practicum/Internship III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Course Short Title (if title exceeds 30 characters):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Faculty:</b> Choose an item.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | <b>Department (or program if no department):</b> College of Arts                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Calendar Description:</b><br><p>This course gives students the opportunity to apply classroom and disciplinary learning in a domestic or international practicum or internship.</p> <p>Note: Students should approach a department head or program chair to learn the process.</p>                                                                                                                                                                                                                                                                                                                                                                                                                    |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Prerequisites (or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | 75 university-level credits including (one of ARTS 280, ARTS 380, CRIM 281, GDS 210, GDS 310, GDS 311, GEOG/SOC 396, GEOG/SOC 398, GEOG 412, GEOG 460, HIST 401, SPAN 280, SPAN 281, SPAN 380, or SPAN 381), a CGPA of 2.67, departmental permission, and Dean of Arts or designate permission.                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Pre/corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Equivalent Courses (cannot be taken for additional credit)</b><br>Former course code/number:<br>Cross-listed with:<br>Equivalent course(s):<br><i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>                                                                                                                                                                                                                                                                                                                                                   |            | <b>Transfer Credit</b><br>Transfer credit already exists: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Transfer credit requested (OREg to submit to BCCAT):<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (if yes, fill in transfer credit form)<br>Resubmit revised outline for articulation: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>To find out how this course transfers, see <a href="http://bctransferguide.ca">bctransferguide.ca</a> . |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Total Hours: 300</b><br><b>Typical structure of instructional hours:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Lecture hours</td><td></td></tr> <tr><td>Seminars/tutorials/workshops</td><td style="text-align: center;">20</td></tr> <tr><td>Laboratory hours</td><td></td></tr> <tr><td>Field experience hours</td><td></td></tr> <tr><td>Experiential (practicum, internship, etc.)</td><td style="text-align: center;">280</td></tr> <tr><td>Online learning activities</td><td></td></tr> <tr><td>Other contact hours:</td><td></td></tr> <tr><td style="text-align: right;"><b>Total</b></td><td style="text-align: center;"><b>300</b></td></tr> </table> |            | Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Seminars/tutorials/workshops | 20 | Laboratory hours |  | Field experience hours |  | Experiential (practicum, internship, etc.) | 280 | Online learning activities |  | Other contact hours: |  | <b>Total</b> | <b>300</b> | <b>Special Topics</b><br>Will the course be offered with different topics?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>If yes, different lettered courses may be taken for credit:<br><input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit<br><i>Note: The specific topic will be recorded when offered.</i> |  |
| Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Seminars/tutorials/workshops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 20         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Laboratory hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Field experience hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Experiential (practicum, internship, etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 280        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Online learning activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Other contact hours:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>300</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | <b>Maximum enrolment (for information only):</b> Varies<br><b>Expected frequency of course offerings (every semester, annually, every other year, etc.):</b> As requested                                                                                                                                                                                                                                                                                                                                                        |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Department / Program Head or Director:</b> CACC Chair                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            | <b>Date approved:</b> September 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Faculty Council approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | <b>Date approved:</b> September 15, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Campus-Wide Consultation (CWC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            | <b>Date of posting:</b> October 13, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Dean/Associate VP:</b> Dr. Jacqueline Nolte                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            | <b>Date approved:</b> September 15, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Undergraduate Education Committee (UEC) approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            | <b>Date of meeting:</b> October 27, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                              |    |                  |  |                        |  |                                            |     |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |  |

**Learning Outcomes**

Upon successful completion of this course, students will be able to:

1. Assess critically the goals and values of the host organization, including how these reflect or challenge their personal aims and goals;
2. Demonstrate professionalism in the workplace;
3. Demonstrate leadership in the workplace by showing initiative and self-motivation, being accountable, acting with integrity, upholding and furthering organizational goals and values, and motivating others;
4. Apply skills and knowledge gained in the classroom to a practicum or internship;
5. Analyze how the placement experience has informed their understanding of their field of study, including its core ideas, theories, and methods;
6. Evaluate their ability to apply knowledge and skills, including their strengths and weaknesses;
7. Assess strengths and shortcomings in their skills and knowledge as related to the placement;
8. Reflect critically on their personal and professional development as related to the placement;
9. Reflect critically on their role in a team and the advantages and challenges of collaboration;
10. Articulate a plan for further personal and/or professional development; and
11. Articulate the personal, social, and professional benefits and challenges of participating in the practicum or internship.

**Prior Learning Assessment and Recognition (PLAR)**

☒ Yes      ☐ No, PLAR cannot be awarded for this course because

**Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)**

Work-integrated learning, workshops/tutorials/seminars, reflective learning, and assignments specific to the discipline.

**Grading system:** Letter Grades: ☒ Credit/No Credit: ☐ Labs to be scheduled independent of lecture hours: Yes ☐ No ☒

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Typical Text(s) and Resource Materials (if more space is required, download Supplemental Texts and Resource Materials form)**

| Author (surname, initials) | Title (article, book, journal, etc.)                  | Current ed.              | Publisher | Year |
|----------------------------|-------------------------------------------------------|--------------------------|-----------|------|
| 1.                         | As required and based on student's program/discipline | <input type="checkbox"/> |           |      |
| 2.                         |                                                       | <input type="checkbox"/> |           |      |
| 3.                         |                                                       | <input type="checkbox"/> |           |      |
| 4.                         |                                                       | <input type="checkbox"/> |           |      |
| 5.                         |                                                       | <input type="checkbox"/> |           |      |

**Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)**

As required for placement.

**Typical Evaluation Methods and Weighting**

|                |   |              |     |                   |   |            |      |
|----------------|---|--------------|-----|-------------------|---|------------|------|
| Final exam:    | % | Assignments: | 50% | Midterm exam:     | % | Practicum: | 50%  |
| Quizzes/tests: | % | Lab work:    | %   | Field experience: | % | Shop work: | %    |
| Other:         | % | Other:       | %   | Other:            | % | Total:     | 100% |

**Details (if necessary):** Students must submit an evaluation completed by the placement supervisor and must complete all assignments to receive credit.

**Typical Course Content and Topics**

Placement: 280 hours completed within a single semester

- The breakdown of the placement hours will be determined by the placement supervisor, the faculty supervisor, and the student.

Placement workshops, meetings, and seminars: 20 hours completed within a single semester

- The student will attend any necessary pre-placement workshops or meetings.
- The student will meet with the faculty supervisor on a regular basis to discuss the practicum or internship and its progress.
- The student will attend any required post-placement seminars.

**Memo for Course Changes**

To: Dr. Alisa Webb, Associate Dean of Arts; Chair, College of Arts Curriculum Committee  
Amara Wong, Committees Assistant

From: Steven Marsh, Department Head, Geography and the Environment

Date: 24 May 2017

**Subject: Proposal for revision of Geography 252**

## 1. Summary of changes (select all that apply):

- ☐ Six-year review
- ☐ Number and/or course code
- ☐ Credits and/or total hours
- ☐ Title
- ☒ Calendar description
- ☒ Prerequisites and/or co-requisites
- ☐ Frequency of course offering
- ☒ Learning outcomes
- ☒ Delivery methods and/or texts and resource materials
- ☒ PLAR options, grading system, and/or evaluation methods
- ☐ Discontinuation of course
- ☒ Other – Please specify: Course Content

## 2. Rationale for change:

- **Update calendar description to meet new 40 word requirement;**
- **Update pre/co-requisites to NONE. The existing pre/co-requisites were resulting in GATE students leaving completion of this course until late in their program which undermined its effectiveness. We anticipate that the change in prerequisite will encourage GATE students to complete this course sooner. It will also allow other students to complete this course as part of their programs. We anticipate that student success will not be impacted by this change as students often took this along with the co-requisite.**
- **Update learning outcomes to reflect the quantitative literacy outcomes that students will meet upon course completion as per new BA framework;**
- **Course content are updated to more accurately reflect how the course is being taught;**
- **Update to delivery methods and texts to better reflect current practice and to provide updated text information;**
- **Evaluation updated to total 100% (error in calculation)**

## 3. If there are substantial changes to the learning outcomes, explain how they align with the learning outcomes of the program(s):

- **Learning outcomes fit more explicitly with the program learning outcomes into the five categories of knowing, learning, investigating & problem solving, communicating and self-directing & collaborating. GATE's program learning outcomes are aligned with the institutional learning outcomes.**
4. Is this course required by any program beyond the discipline? If so, how will this change affect that program or programs?
    - **N/A**
  5. Which program areas have been consulted about the change(s)?
    - **GATE**
  6. What consideration has been given to indigenizing the curriculum?
    - **Traditional ways of knowing will used in this course and indigenous examples and data will be used where possible**
  7. If this course is not eligible for PLAR, explain why: **N/A**
  8. If any of the following items on the official course outline have changed, explain how the change will affect the budget for your area or any other area:
    - a. Credit value – **N/A**
    - b. Class size limit – **N/A**
    - c. Frequency of offering – **N/A**
    - d. Resources required (labs, equipment) – **N/A**
  9. Are field trips required for this course? (Field trip requirements must be announced in the timetable.) How are the trips funded? – **N/A**
  10. Estimate of the typical costs for this course, including textbooks and other materials:
    - **\$100-150 for textbooks**

**CWC comment and response:**

- Removal of the prerequisites will open this course up to Qualifying Studies students. Is that the intention? If not, perhaps a minimum requirement of 12-15 credits would be preferable?

*This course only had pre/corequisites, and the desire was to open the course up for students to obtain quantitative literacy. The department did not feel that this would be a problem.*



**ORIGINAL COURSE IMPLEMENTATION DATE:** January 1996  
**REVISED COURSE IMPLEMENTATION DATE:** September 2018  
**COURSE TO BE REVIEWED: (six years after UEC approval)** October 2023  
**Course outline form version:** 09/15/14

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

**Note: The University reserves the right to amend course outlines as needed without notice.**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|------------------------------|--|------------------|----|------------------------|--|--------------------------------------------|--|----------------------------|--|----------------------|--|--------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Course Code and Number:</b> GEOG 252                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           | <b>Number of Credits:</b> 4 <a href="#">Course credit policy (105)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                    |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Course Full Title:</b> Explanation in Geography: Quantitative Methods                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Course Short Title (if title exceeds 30 characters):</b> Quantitative Methods                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Faculty:</b> Faculty of Social Sciences                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           | <b>Department (or program if no department):</b> Geography and the Environment                                                                                                                                                                                                                                                                                                                                                                                                                            |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Calendar Description:</b><br>A numerical approach to problem-solving in geography. Methods in the collection, description, analysis, and presentation of quantitative data will be addressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Prerequisites (or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           | None.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Pre/corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Equivalent Courses (cannot be taken for additional credit)</b><br>Former course code/number: <b>GEOG 352</b><br>Cross-listed with:<br>Equivalent course(s):<br><i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>                                                                                                                                                                                                                                                                                                                                                 |           | <b>Transfer Credit</b><br>Transfer credit already exists: <input checked="" type="checkbox"/> Yes   No<br>Transfer credit requested (OREg to submit to BCCAT):<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (if yes, fill in transfer credit form)<br>Resubmit revised outline for articulation: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>To find out how this course transfers, see <a href="http://bctransferguide.ca">bctransferguide.ca</a> . |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Total Hours: 75</b><br><b>Typical structure of instructional hours:</b> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr><td>Lecture hours</td><td style="text-align: center;">45</td></tr> <tr><td>Seminars/tutorials/workshops</td><td></td></tr> <tr><td>Laboratory hours</td><td style="text-align: center;">30</td></tr> <tr><td>Field experience hours</td><td></td></tr> <tr><td>Experiential (practicum, internship, etc.)</td><td></td></tr> <tr><td>Online learning activities</td><td></td></tr> <tr><td>Other contact hours:</td><td></td></tr> <tr><td style="text-align: right;"><b>Total</b></td><td style="text-align: center;"><b>75</b></td></tr> </table> |           | Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 45 | Seminars/tutorials/workshops |  | Laboratory hours | 30 | Field experience hours |  | Experiential (practicum, internship, etc.) |  | Online learning activities |  | Other contact hours: |  | <b>Total</b> | <b>75</b> | <b>Special Topics</b><br>Will the course be offered with different topics?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>If yes, different lettered courses may be taken for credit:<br><input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit<br><i>Note: The specific topic will be recorded when offered.</i> |  |
| Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 45        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Seminars/tutorials/workshops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Laboratory hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 30        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Field experience hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Experiential (practicum, internship, etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Online learning activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Other contact hours:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>75</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           | <b>Maximum enrolment (for information only): 25</b><br><b>Expected frequency of course offerings (every semester, annually, every other year, etc.):</b> twice per year – fall and winter semester                                                                                                                                                                                                                                                                                                        |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Department / Program Head or Director:</b> Steven Marsh                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           | <b>Date approved:</b> September 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Faculty Council approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           | <b>Date approved:</b> September 15, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Campus-Wide Consultation (CWC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           | <b>Date of posting:</b> October 13, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Dean/Associate VP:</b> Jacqueline Nolte                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           | <b>Date approved:</b> September 15, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Undergraduate Education Committee (UEC) approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           | <b>Date of meeting:</b> October 27, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |                              |  |                  |    |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |

**Learning Outcomes**

Upon successful completion of this course, students will be able to:

- Apply methods in descriptive, inferential and relational statistics to the task of problem solving in geography.
- Create quantitative data through use of measurement techniques.
- Use quantitative methods to test hypotheses.
- Critically assess both the possibilities and limitations of statistical methodologies in geography.
- Create spreadsheets to manage quantitative data entry.
- Convert geographical questions into statistically testable propositions and research designs.
- Develop a basic working ability with statistical software, such as SPSS.

**Prior Learning Assessment and Recognition (PLAR)**

☒ Yes      ☐ No, PLAR cannot be awarded for this course because

**Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)**

Lectures, guest presentations, computer lab assignments, class discussions.

**Grading system:** Letter Grades: ☒ Credit/No Credit: ☐ Labs to be scheduled independent of lecture hours: Yes ☒ No ☐

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Typical Text(s) and Resource Materials (if more space is required, download Supplemental Texts and Resource Materials form)**

|    | Author (surname, initials)                             | Title (article, book, journal, etc.)               | Current ed.                         | Publisher     | Year |
|----|--------------------------------------------------------|----------------------------------------------------|-------------------------------------|---------------|------|
| 1. | Roberts, :Lance W.,<br>Karen Kampen and<br>Tracey Pete | The Statistics Coach: Learning Through Practice    | <input checked="" type="checkbox"/> | Oxford        | 2010 |
| 2. | Harris, Richard and<br>Claire Jarvis                   | Statistics for Geography and Environmental Science | <input checked="" type="checkbox"/> | Prentice Hall | 2011 |
| 3. |                                                        |                                                    |                                     |               |      |
| 4. |                                                        |                                                    |                                     |               |      |
| 5. |                                                        |                                                    |                                     |               |      |

**Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)**

None

**Typical Evaluation Methods and Weighting**

|             |     |              |     |                       |   |            |      |
|-------------|-----|--------------|-----|-----------------------|---|------------|------|
| Final exam: | 35% | Assignments: | 25% | Midterm exam:         | % | Practicum: | %    |
| Quizzes:    | %   | Lab work:    | %   | Field trip assignment | % | Shop work: | %    |
| Tests:      | 40% | Other:       |     | Other:                | % | Total:     | 100% |

**Details (if necessary):**
**Typical Course Content and Topics**

1. Introduction: A quantitative approach to social and physical Geography.
2. What is quantitative data and where does it come from: issues of scale, measurement, and collection.
3. The normal curve and its role in statistics.
4. Probability, and hypothesis testing.
5. Devising testable propositions in Geography
6. Survey design and sampling
7. The ethics of data collection and use.
8. How to detect and measure relationships in quantitative data
9. How to build and manage a spreadsheet for geographical analysis.
10. Applications of correlation and regression.
11. Detecting and mapping spatial dependency: an introduction to spatial autocorrelation..

**Memo for New Course**

To: Dr. Lucy Lee, Dean of Science  
 Allan Arndt, Chair, Faculty of Science Curriculum Committee  
 Caroline Majeau, Administrative Assistant

CC: Dr. Alisa Webb, Associate Dean of Arts; Chair, College of Arts Curriculum Committee  
 Amara Wong, Committees Assistant

From: Steven Marsh, Department Head, Geography and the Environment

Date: 26 May 2017

**Subject: Proposal for new course - GEOG 117: Dinosaurs!**

## 1. Rationale for new course:

**This course is designed as a non-lab science elective for interested students across all areas and disciplines. It will introduce students to scientific principles through an exploration of historical geology and a discussion of dinosaurs. It will also address broader issues related to ethics when conducting geological analysis. This course will investigate the role that the historical geography and geology had on the rise, evolution and fall of dinosaurs during the Mesozoic (252 million to 65 million years ago).**

## 2. How this new course fits into program(s):

**This course is designed as a service course and at this time will not be added to the BA major in Geography and BSc major in Physical Geography. It is anticipated that this course will be taken largely by students outside of Geography but may also draw students into our program. This course will be submitted for vetting to CACC as a course that meets scientific literacy for the BA.**

*Note: Adding this course to a program will usually require a program change request.*

## 3. Explain how the course learning outcomes align with the learning outcomes of the program(s):

**Learning outcomes fit more explicitly with the program learning outcomes into the five categories of knowing, learning, investigating & problem solving, communicating and self-directing & collaborating. GATE's program learning outcomes are aligned with the institutional learning outcomes.**

4. Will this course be required by any program beyond the discipline? If so, how will this course affect that program or programs? **No**5. Which program areas have been consulted about the course? **GATE**6. If a new discipline designation is required, explain why: **N/A**

## 7. What consideration has been given to indigenizing the curriculum?

**Traditional ways of knowing will used in this course and discussions around indigenous views of land, and resources will be introduced.**

8. If this course is not eligible for PLAR, explain why: **N/A**
9. Explain how each of the following will affect the budget for your area or any other area:
  - a. Credit value - 3
  - b. Class size limit - 36
  - c. Frequency of offering – this course will be offered annually
  - d. Resources required (labs, equipment) – none

10. Are field trips required for this course? (Field trip requirements must be announced in the timetable.) How are the trips funded?

**Field trips may be required. Field trips are funded with students paying 50% of costs and the department paying 50% of the costs. Where students meet faculty at the field location transportation costs are borne by the student and mileage for the faculty is covered by the department.**

11. Estimate of the typical costs for this course, including textbooks and other materials:

**\$100 for textbooks**



ORIGINAL COURSE IMPLEMENTATION DATE: September 2018  
 REVISED COURSE IMPLEMENTATION DATE:  
 COURSE TO BE REVIEWED: (six years after UEC approval) October 2023  
 Course outline form version: 09/15/14

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|------------------------------|----|------------------|--|------------------------|--|--------------------------------------------|--|----------------------------|--|----------------------|--|--------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Course Code and Number:</b> GEOG 117                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           | <b>Number of Credits:</b> 3 <a href="#">Course credit policy (105)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Course Full Title:</b> Dinosaurs!                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Course Short Title (if title exceeds 30 characters):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Faculty:</b> Faculty of Social Sciences                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           | <b>Department (or program if no department):</b> Geography and the Environment                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Calendar Description:</b><br><br>This course will investigate the role that the historical geography and geology had on the rise, evolution, and fall of dinosaurs during the Mesozoic (252 million to 65 million years ago).<br><br>Note: Field trips outside of class time may be required. Please refer to the department website for field trip scheduling information.                                                                                                                                                                                                                                                                                                                                             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Prerequisites (or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           | None.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Pre/corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Equivalent Courses (cannot be taken for additional credit)</b><br>Former course code/number:<br>Cross-listed with:<br>Equivalent course(s):<br><i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>                                                                                                                                                                                                                                                                                                                                                                     |           | <b>Transfer Credit</b><br>Transfer credit already exists: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br><br>Transfer credit requested (OREg to submit to BCCAT):<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (if yes, fill in transfer credit form)<br><br>Resubmit revised outline for articulation: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br><br>To find out how this course transfers, see <a href="http://bctransferguide.ca">bctransferguide.ca</a> . |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Total Hours: 45</b><br><b>Typical structure of instructional hours:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Lecture hours</td> <td style="text-align: right;">30</td> </tr> <tr> <td>Seminars/tutorials/workshops</td> <td style="text-align: right;">15</td> </tr> <tr> <td>Laboratory hours</td> <td></td> </tr> <tr> <td>Field experience hours</td> <td></td> </tr> <tr> <td>Experiential (practicum, internship, etc.)</td> <td></td> </tr> <tr> <td>Online learning activities</td> <td></td> </tr> <tr> <td>Other contact hours:</td> <td></td> </tr> <tr> <td style="text-align: right;"><b>Total</b></td> <td style="text-align: right;"><b>45</b></td> </tr> </table> |           | Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 30 | Seminars/tutorials/workshops | 15 | Laboratory hours |  | Field experience hours |  | Experiential (practicum, internship, etc.) |  | Online learning activities |  | Other contact hours: |  | <b>Total</b> | <b>45</b> | <b>Special Topics</b><br>Will the course be offered with different topics?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br><br>If yes, different lettered courses may be taken for credit:<br><input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit<br><br><i>Note: The specific topic will be recorded when offered.</i> |  |
| Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 30        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Seminars/tutorials/workshops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 15        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Laboratory hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Field experience hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Experiential (practicum, internship, etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Online learning activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Other contact hours:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>45</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           | <b>Maximum enrolment (for information only):</b> 36<br><br><b>Expected frequency of course offerings (every semester, annually, every other year, etc.):</b> annually                                                                                                                                                                                                                                                                                                                                                                        |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Department / Program Head or Director:</b> Steven Marsh                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           | <b>Date approved:</b> September 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Faculty Council approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Campus-Wide Consultation (CWC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           | <b>Date of posting:</b> October 13, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Dean/Associate VP:</b> Jacqueline Nolte                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Undergraduate Education Committee (UEC) approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           | <b>Date of meeting:</b> October 27, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    |                              |    |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |

**Learning Outcomes**

Upon successful completion of this course, students will be able to:

1. Demonstrate competence in basic stratigraphic skills.
2. Distinguish between the major groups of dinosaurs.
3. Describe changes in paleogeography and its relationship to the spatial distribution and occurrence of dinosaur fossils.
4. Explain the paleoenvironments of dinosaurs utilizing basic stratigraphic principles.
5. Articulate how scientists are able to infer dinosaur behavior from fossils and trackways.
6. Describe the use of the scientific method to reconstruct the paleogeography of the Mesozoic.
7. Explain the ethical issues faced when conducting scientific research into the time of the Mesozoic.
8. Articulate the scientific theories used to explain the demise of the dinosaurs.
9. Communicate geographic concepts using various scientific techniques (written, numeric, spatial, and oral).
10. Critically reflect upon their learning from in-class discussions, lectures, and class assignments.

**Prior Learning Assessment and Recognition (PLAR)**

☒ Yes      ☐ No, PLAR cannot be awarded for this course because

**Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)**

This course typically includes lectures, assigned readings, discussion groups, films, use of online resources, assignments, field trips, and guest lectures.

**Grading system:** Letter Grades: ☒ Credit/No Credit: ☐ Labs to be scheduled independent of lecture hours: Yes ☐ No ☒

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Typical Text(s) and Resource Materials (if more space is required, download Supplemental Texts and Resource Materials form)**

| Author (surname, initials) | Title (article, book, journal, etc.)                         | Current ed.              | Publisher   | Year |
|----------------------------|--------------------------------------------------------------|--------------------------|-------------|------|
| 1. Lucas                   | Dinosaurs: The Textbook                                      | <input type="checkbox"/> | McGrawHill  | 2007 |
| 2. Wicander & Monroe       | Historical Geology: Evolution of Earth and Life Through Time | <input type="checkbox"/> | Brooks Cole | 2016 |
| 3.                         |                                                              | <input type="checkbox"/> |             |      |
| 4.                         |                                                              | <input type="checkbox"/> |             |      |
| 5.                         |                                                              | <input type="checkbox"/> |             |      |

**Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)**

**Typical Evaluation Methods and Weighting**

|                     |     |              |     |                   |   |            |      |
|---------------------|-----|--------------|-----|-------------------|---|------------|------|
| Final exam:         | 20% | Assignments: | 40% | Midterm exam:     | % | Practicum: | %    |
| Quizzes/tests:      | 20% | Lab work:    | %   | Field experience: | % | Shop work: | %    |
| Reflective Journal: | 20% | Other:       | %   | Other:            | % | Total:     | 100% |

**Details (if necessary):**

**Typical Course Content and Topics**

1. Introduction to course.
2. Unravelling geologic time.
3. Paleogeography and plate tectonics
4. Climates of the Mesozoic.
5. The fossil record.
6. What is a dinosaur?
7. The Triassic and rise of the dinosaurs.
8. Jurassic Park
9. The height of the dinosaurs – the Cretaceous.
10. Non-dinosaurs during the Mesozoic.
11. Behaviour of dinosaurs.
12. The fall of dinosaurs and the rise of mammals.

**Memo for New Course**

To: Dr. Greg Schlitt, Acting Dean of Science  
Dr. Allan Arndt, Chair, Faculty of Science Curriculum Committee  
Caroline Majeau, Administrative Assistant

Cc: Dr. Alisa Webb, Associate Dean of Arts, Chair College of Arts Curriculum Committee  
Amara Wong, Committees Assistant

From: Steven Marsh, Department Head, Geography and the Environment

Date: August 10, 2017

**Subject: Proposal for new course: GEOG 357: Conservation GIS**

1. Rationale for new course:

**This course is designed as an elective for students interested in the applying GIS concepts to conservation issues. The course is cross listed with Biology to provide an applied GIS course dealing with conservation planning and management issues. Our ecologically focused courses (GEOG 219, 319 and 419) are all cross-listed with Biology and this continues this approach. This allows Biology students to take a relevant course and receive Biology credit. The course will provide students with skills in communication, investigation, problem-solving, spatial analysis and self direction.**

2. How this new course fits into program(s):

**This course is designed as a service course and at this time will not be added to BA major in Geography, the BSc major in Physical Geography, or the GIS certificate. It is anticipated that this course will be taken largely by students outside of Geography but may also draw students into our program.**

*Note: Adding this course to a program will usually require a program change request.*

3. Explain how the course learning outcomes align with the learning outcomes of the program(s):

**Learning outcomes fit explicitly with the program learning outcomes into the five categories of knowing, learning, investigating & problem solving, communicating and self -directing & collaborating. GATE's program learning outcomes are aligned with the institutional learning outcomes.**

4. Will this course be required by any program beyond the discipline? If so, how will this course affect that program or programs? **No**

5. Which program areas have been consulted about the course? **GATE and Biology**

6. If a new discipline designation is required, explain why: **N/A**

7. What consideration has been given to indigenizing the curriculum? **Traditional ways of knowing will be used in this course and discussions around indigenous views of land, sustainability and resources will be introduced.**
8. If this course is not eligible for PLAR, explain why: **N/A**
9. Explain how each of the following will affect the budget for your area or any other area:
  - a. Credit value **4**
  - b. Class size limit **28**
  - c. Frequency of offering **annually**
  - d. Resources required (labs, equipment) **use of GIS software in computer lab**
10. Are field trips required for this course? (Field trip requirements must be announced in the timetable.) How are the trips funded?

**Field trips maybe required. Field trips are funded with students paying 50% of costs and the department paying 50% of the costs for trips that occur on one day. Where students meet faculty at the field location transportation costs are borne by the student and mileage for the faculty is covered by the department.**
11. Estimate of the typical costs for this course, including textbooks and other materials: **\$100 to \$150 for textbooks.**

**CWC comments and responses:**

- Please confirm that GEOG 253 (Introduction to Geographic Information Systems) should not be included in the prerequisites for this course.

*No GEOG 253 is not a prereq necessary for this course.*



ORIGINAL COURSE IMPLEMENTATION DATE: September 2018  
 REVISED COURSE IMPLEMENTATION DATE:  
 COURSE TO BE REVIEWED: (six years after UEC approval) October 2023  
 Course outline form version: 09/15/14

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|------------------------------|--|------------------|----|------------------------|--|--------------------------------------------|--|----------------------------|---|----------------------|--|--------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Course Code and Number:</b> GEOG 357                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           | <b>Number of Credits:</b> 4 <a href="#">Course credit policy (105)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Course Full Title:</b> Conservation GIS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Course Short Title (if title exceeds 30 characters):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Faculty:</b> Faculty of Social Sciences                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           | <b>Department (or program if no department):</b> Geography and the Environment                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Calendar Description:</b><br>Concepts in conservation planning and management will be investigated through the application of spatial analysis techniques and Geography Information Systems (GIS).<br><br>Note: This course is offered as GEOG 357 and BIO 357. Students may take only one of these for credit.<br>Note: Students with credit for GEOG 300J cannot take this course for further credit.<br>Note: Field trips outside of class time may be required. Please refer to the department website for field trip scheduling information.                                                                                                                                                                                            |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Prerequisites (or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           | 45 university-level credits.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Pre/corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Equivalent Courses (cannot be taken for additional credit)</b><br>Former course code/number: <b>GEOG 300J</b><br>Cross-listed with: <b>BIO 357</b><br>Equivalent course(s): <b>BIO 357</b><br><i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>                                                                                                                                                                                                                                                                                                                                           |           | <b>Transfer Credit</b><br>Transfer credit already exists: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br><br>Transfer credit requested (OREg to submit to BCCAT):<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (if yes, fill in transfer credit form)<br><br>Resubmit revised outline for articulation: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>To find out how this course transfers, see <a href="http://bctransferguide.ca">bctransferguide.ca</a> . |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Total Hours: 60</b><br><b>Typical structure of instructional hours:</b> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr><td>Lecture hours</td><td style="text-align: right;">20</td></tr> <tr><td>Seminars/tutorials/workshops</td><td></td></tr> <tr><td>Laboratory hours</td><td style="text-align: right;">35</td></tr> <tr><td>Field experience hours</td><td></td></tr> <tr><td>Experiential (practicum, internship, etc.)</td><td></td></tr> <tr><td>Online learning activities</td><td style="text-align: right;">5</td></tr> <tr><td>Other contact hours:</td><td></td></tr> <tr><td style="text-align: right;"><b>Total</b></td><td style="text-align: right;"><b>60</b></td></tr> </table> |           | Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 20 | Seminars/tutorials/workshops |  | Laboratory hours | 35 | Field experience hours |  | Experiential (practicum, internship, etc.) |  | Online learning activities | 5 | Other contact hours: |  | <b>Total</b> | <b>60</b> | <b>Special Topics</b><br>Will the course be offered with different topics?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br><br>If yes, different lettered courses may be taken for credit:<br><input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit<br><br><i>Note: The specific topic will be recorded when offered.</i> |  |
| Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 20        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Seminars/tutorials/workshops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Laboratory hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 35        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Field experience hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Experiential (practicum, internship, etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Online learning activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 5         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Other contact hours:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>60</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           | <b>Maximum enrolment (for information only): 28</b><br><br><b>Expected frequency of course offerings (every semester, annually, every other year, etc.):</b> annually                                                                                                                                                                                                                                                                                                                                                                    |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Department / Program Head or Director:</b> Steven Marsh                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           | <b>Date approved:</b> September 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Faculty Council approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Campus-Wide Consultation (CWC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           | <b>Date of posting:</b> October 13, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Dean/Associate VP:</b> Dr. Jacqueline Nolte                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Undergraduate Education Committee (UEC) approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           | <b>Date of meeting:</b> October 27, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |                              |  |                  |    |                        |  |                                            |  |                            |   |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |

**Learning Outcomes**

Upon successful completion of this course, students will be able to:

1. Demonstrate GIS concepts and skills related to spatial planning for conservation.
2. Apply basic and intermediate spatial analysis techniques to problems in conservation biology through the creation and refinement of conservation plans.
3. Describe how geographic information is represented and managed on computers as GIS data.
4. Identify the role and appropriateness of existing GIS vector and raster data for analyzing, managing and communicating geographic information.
5. Convert geographic information into GIS data that has location and attribute characteristics.
6. Conduct a GIS analysis to address a conservation issue.
7. Investigate spatial issues in conservation planning and management.
8. Communicate findings in written, spatial, and visual forms.

**Prior Learning Assessment and Recognition (PLAR)**

☒ Yes      ☐ No, PLAR cannot be awarded for this course because

**Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)**

The course typically includes lectures, guest lecturers, laboratory exercises, and online learning activities.

**Grading system:** Letter Grades: ☒ Credit/No Credit: ☐ Labs to be scheduled independent of lecture hours: Yes ☐ No ☒

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Typical Text(s) and Resource Materials (if more space is required, download Supplemental Texts and Resource Materials form)**

| Author (surname, initials) | Title (article, book, journal, etc.)      | Current ed.              | Publisher  | Year |
|----------------------------|-------------------------------------------|--------------------------|------------|------|
| 1. Carr and Zwick          | Smart Land-Use Analysis. The LUCIS Model  | <input type="checkbox"/> | ESRI Press | 2007 |
| 2. Craighead and Convis    | Conservation Planning: Shaping the Future | <input type="checkbox"/> | ESRI Press | 2013 |
| 3. Scally                  | GIS for Environmental Management          | <input type="checkbox"/> | ESRI Press | 2006 |
| 4.                         |                                           | <input type="checkbox"/> |            |      |
| 5.                         |                                           | <input type="checkbox"/> |            |      |

**Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)**

**Typical Evaluation Methods and Weighting**

|                |     |              |     |                   |   |            |      |
|----------------|-----|--------------|-----|-------------------|---|------------|------|
| Final exam:    | 15% | Assignments: | 40% | Midterm exam:     | % | Practicum: | %    |
| Quizzes/tests: | 25% | Lab work:    | %   | Field experience: | % | Shop work: | %    |
| GIS Project:   | 20% | Other:       | %   | Other:            | % | Total:     | 100% |

**Details (if necessary):**

**Typical Course Content and Topics**

1. Introduction to course.
2. Using GIS to examine hotspot biodiversity and endemism.
3. GIS as an integrating tool for human communities, ecosystem services, and economics in conservation.
4. The role of scale in conservation planning.
5. Vegetation assessment of natural areas and land cover in conservation planning.
6. Calculating timber sales from forest lands.
7. Selecting species as targets for conservation.
8. Using GIS in the identification and assessment of habitat quality.
9. Identification and mapping of habitat cores using GIS.
10. Assessing habitat connectivity through GIS.
11. GIS in marine and freshwater conservation.



ORIGINAL COURSE IMPLEMENTATION DATE: September 2018  
 REVISED COURSE IMPLEMENTATION DATE:  
 COURSE TO BE REVIEWED: (six years after UEC approval) October 2023  
 Course outline form version: 09/15/14

## OFFICIAL UNDERGRADUATE CROSS-LISTED COURSE OUTLINE FORM

**Note: The University reserves the right to amend course outlines as needed without notice.**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Course Code and Number:</b> BIO 357                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Number of Credits:</b> 4 <a href="#">Course credit policy (105)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Course Full Title:</b> Conservation GIS<br><b>Course Short Title (if title exceeds 30 characters):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Faculty:</b> Faculty of Social Sciences                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Department (or program if no department):</b> Geography and the Environment                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Official Course Outline:</b><br>This is a cross-listed course. Please refer to <b>GEOG 357</b> for the official course outline.                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Calendar Description:</b><br>Concepts in conservation planning and management will be investigated through the application of spatial analysis techniques and Geography Information Systems (GIS).<br><br>Note: This course is offered as GEOG 357 and BIO 357. Students may take only one of these for credit.<br>Note: Students with credit for GEOG 300J cannot take this course for further credit.<br>Note: Field trips outside of class time may be required. Please refer to the department website for field trip scheduling information. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Prerequisites (or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 45 university-level credits.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Pre/corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Equivalent Courses (cannot be taken for additional credit)</b><br>Former course code/number: <b>GEOG 300J</b><br>Cross-listed with: <b>BIO 357</b><br>Equivalent course(s): <b>BIO 357</b><br><i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>                                                                                                                                                | <b>Transfer Credit</b><br>Transfer credit already exists: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Transfer credit requested (OReg to submit to BCCAT):<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (if yes, fill in transfer credit form)<br>Resubmit revised outline for articulation: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>To find out how this course transfers, see <a href="http://bctransferguide.ca">bctransferguide.ca</a> . |
| <b>Department / Program Head or Director:</b> Steven Marsh                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Date approved:</b> September 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Faculty Council approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Campus-Wide Consultation (CWC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Date of posting:</b> October 13, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Dean/Associate VP:</b> Dr. Jacqueline Nolte                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Undergraduate Education Committee (UEC) approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Date of meeting:</b> October 27, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

**Memo for New Course**

To: UEC

From: Allan Arndt, Biology Department Head

Date: January 2017

**Subject: Proposal for new course BIO 442 Tropical Field School**

1. Rationale for new course: **A Tropical Field School course is need to regularize our Ecuador field school.**
2. How this new course fits into program(s): **Will satisfy BIO Major UL credit requirements.**  
*Note: Adding this course to a program will usually require a program change request.*
3. Explain how the course learning outcomes align with the learning outcomes of the program(s): **The learning outcomes align with the department ILO's (see document below).**
4. Will this course be required by any program beyond the discipline? If so, how will this course affect that program or programs? **no**
5. Which program areas have been consulted about the course? **BIO Curriculum Committee**
6. If a new discipline designation is required, explain why: **This is not required.**  
What consideration has been given to indigenizing the curriculum? **Indigenization is encouraged at the program level through breadth/elective requirements where students can choose from courses where indigenization is appropriate to the course content and discipline.**
7. If this course is not eligible for PLAR, explain why: **This course is eligible for PLAR.**
8. Explain how each of the following will affect the budget for your area or any other area:
  - a. Credit value
  - b. Class size limit
  - c. Frequency of offering
  - d. Resources required (labs, equipment)**This course will be offered as demand dictates.**
9. Are field trips required for this course? (Field trip requirements must be announced in the timetable.) How are the trips funded? **This is a field school course.**

**CWC comments and responses:**

- Is it necessary to have this course be specifically for tropical areas? Would the creation of a more general "Field School" course be more useful?  
**Yes, the department feels it is necessary to have a dedicated tropical field school. The creation of a general Field School would not be more useful to the department.**
- Has the department considered increasing the hours and credits so that this is a 9 credit course, for full-time study?  
**Yes, the department has considered this and would like to stay at 8 credits.**

**BIOLOGY ILOs**

Letters have been used to distinguish biology outcomes from the numbered institutional outcomes.

- A) Access and use biological knowledge in order to interpret and engage in discussions on contemporary biological and social issues on a regional and global scale **1, 4, 9**
- B) Foster critical thinking to analyze, interpret, integrate, and critique the existing and emerging body of biological knowledge in both independent and collaborative settings. **2, 6, 7**
- C) Learn and apply multiple methods and techniques to answer biological questions in a professional and ethical context. **3, 4, 8**
- D) Access, integrate, and communicate scientific information to general and academic audiences and be leaders in the community. **5, 7**
- E) Initiate inquiries and develop solutions to biological questions and be aware of the limits of knowledge. **2, 4, 9**

**Institutional Learning Outcomes****1. Demonstrate information competency**

Graduates gather, organize, and critically examine written, oral, visual, and numerical information. They efficiently use technology as a tool to gather and evaluate information. Graduates utilize relevant and credible sources, recognizing the need to gather information from a variety of perspectives. Graduates use information ethically, respecting the legal restrictions that exist when using published, confidential, and/or proprietary information.

**2. Analyze critically and imaginatively**

Graduates engage in the examination of ideas, issues, and problems, drawing on established bodies of knowledge and means of analysis. Graduates organize information logically and consider alternate strategies. They recognize the need for multiple voices and seek opportunities for those voices to be heard. Graduates are creative and generative. They use divergent or lateral thinking to expand on ideas and create new ways of looking at a situation.

**3. Use knowledge and skills proficiently**

Graduates demonstrate competence in the knowledge and skills specific to their area of study. They productively apply their knowledge and skills to a variety of situations.

**4. Initiate inquiries and develop solutions to problems**

Graduates demonstrate a curiosity that results in inquiry. They propose questions that encourage deliberation and the formulation of solutions to problems, in theoretical or applied fields. They evaluate the benefits and challenges of different solutions when proposing specific courses of action

**5. Communicate effectively**

Graduates communicate respectfully. They listen attentively, seek clarification, and work to understand the points of view of others. Graduates effectively present information using a variety of modes and media. They adapt their method of presentation to suit specific audiences. Graduates accurately convey their intended message using a variety of oral, written, and visual strategies.

**6. Pursue self-motivated and self-reflective learning**

Graduates are confident and initiate action. They work independently and productively. They set personal and professional goals and establish a plan of action to attain those goals. Graduates continually reflect on their growth and development and utilize reliable and practical strategies to learn from that reflection.

**7. Engage in collaborative leadership**

Graduates work cooperatively, in that they are aware of and appreciate diversity, work with diverse peoples, and demonstrate strong interpersonal skills. Graduates motivate, include, and support others, demonstrating leadership skills. They seek opportunities to collaborate.

**8. Engage in respectful and professional practices**

Graduates behave ethically and equitably, in that they act with integrity and take responsibility for their actions. Graduates engage in professional dialogue and participate in learning communities.

**9. Contribute regionally and globally**

Graduates are socially just, in that they are prepared to participate in their regional and global communities. They demonstrate knowledge of their region and the world. Graduates initiate change. Graduates demonstrate that they can use what they have learned at UFV to impact their community positively.

BIO 442

University of the Fraser Valley Transfer Credit Request Form

## Transfer Credit Request Form

Please fill out this form if transfer credit should be requested.

| <u>Institution code</u> | <u>Full Institution name</u>                     | <u>Transfer credit exists</u> | <u>Request transfer credit</u>      |
|-------------------------|--------------------------------------------------|-------------------------------|-------------------------------------|
| AI                      | Art Institute of Vancouver                       | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| ALEX                    | Alexander College                                | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| ASM                     | Acsenda School of Management                     | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| AU                      | Athabasca University                             | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| CAPU                    | Capilano University                              | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| CNC                     | College of New Caledonia                         | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| COTR                    | College of the Rockies                           | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| COLU                    | Columbia College                                 | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| COQU                    | Coquitlam College                                | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| DOUG                    | Douglas College                                  | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| EC                      | Emily Carr University of Art & Design            | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| FDU                     | Fairleigh Dickinson University                   | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| JIBC                    | Justice Institute of BC                          | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| KWAN                    | Kwantlen Polytechnic University                  | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| NVIT                    | Nicola Valley Institute of Technology            | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| NIC                     | North Island College                             | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| NLC                     | Northern Lights College                          | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| NWCC                    | Northwest Community College                      | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| OC                      | Okanagan College                                 | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| SFU                     | Simon Fraser University                          | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| TRU                     | Thompson Rivers University                       | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| TRU-OL                  | Thompson Rivers University, Open Learning        | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| TWU                     | Trinity Western University                       | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| UBC                     | University of British Columbia- Vancouver Campus | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| UBCO                    | University of British Columbia- Okanagan Campus  | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| UCW                     | University Canada West                           | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| UNBC                    | University of Northern BC                        | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| UVIC                    | University of Victoria                           | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| VCC                     | Vancouver Community College                      | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |
| VIU                     | Vancouver Island University                      | <input type="checkbox"/>      | <input checked="" type="checkbox"/> |

Visit [www.bccat.ca/articulate/additions/upperpolicy](http://www.bccat.ca/articulate/additions/upperpolicy) for a list of the institutions that will articulate upper-level courses.

For further information on identifying appropriate receiving institutions, please see the following webpage:  
[http://bccat.ca/info/handbook/pages/identifying-appropriate-receiving-institutions?in\\_handbook=241](http://bccat.ca/info/handbook/pages/identifying-appropriate-receiving-institutions?in_handbook=241)



ORIGINAL COURSE IMPLEMENTATION DATE: September 2018  
 REVISED COURSE IMPLEMENTATION DATE:  
 COURSE TO BE REVIEWED: (six years after UEC approval) October 2023  
 Course outline form version: 09/15/14

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

**Note: The University reserves the right to amend course outlines as needed without notice.**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|------------------------------|--|------------------|----|------------------------|----|--------------------------------------------|--|----------------------------|--|----------------------|--|--------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Course Code and Number:</b> BIO 442                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            | <b>Number of Credits:</b> 8 <small>Course credit policy (105)</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Course Full Title:</b> Tropical Field School                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Course Short Title (if title exceeds 30 characters):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Faculty:</b> Faculty of Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            | <b>Department (or program if no department):</b> Biology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Calendar Description:</b><br>Students have an opportunity for an in-depth investigation of specialist areas in tropical biology, under the guidance of experts in the field.<br><br>Note: Students must check with the biology department to determine course availability and content area for a particular semester.                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Prerequisites (or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            | Any three BIO courses numbered 200 or above and permission of the department.                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Pre/corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Equivalent Courses (cannot be taken for additional credit)</b><br>Former course code/number:<br>Cross-listed with:<br>Equivalent course(s):<br><i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>                                                                                                                                                                                                                                                                                                                                                                                                    |            | <b>Transfer Credit</b><br>Transfer credit already exists: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br><br>Transfer credit requested (OREg to submit to BCCAT):<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (if yes, fill in transfer credit form)<br><br>Resubmit revised outline for articulation: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>To find out how this course transfers, see <a href="http://bctransferguide.ca">bctransferguide.ca</a> . |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Total Hours: 150</b><br><b>Typical structure of instructional hours:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Lecture hours</td> <td style="text-align: right;">15</td> </tr> <tr> <td>Seminars/tutorials/workshops</td> <td></td> </tr> <tr> <td>Laboratory hours</td> <td style="text-align: right;">45</td> </tr> <tr> <td>Field experience hours</td> <td style="text-align: right;">90</td> </tr> <tr> <td>Experiential (practicum, internship, etc.)</td> <td></td> </tr> <tr> <td>Online learning activities</td> <td></td> </tr> <tr> <td>Other contact hours:</td> <td></td> </tr> <tr> <td style="text-align: right;"><b>Total</b></td> <td style="text-align: right;"><b>150</b></td> </tr> </table> |            | Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 15 | Seminars/tutorials/workshops |  | Laboratory hours | 45 | Field experience hours | 90 | Experiential (practicum, internship, etc.) |  | Online learning activities |  | Other contact hours: |  | <b>Total</b> | <b>150</b> | <b>Special Topics</b><br>Will the course be offered with different topics?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br><br>If yes, different lettered courses may be taken for credit:<br><input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit<br><br><i>Note: The specific topic will be recorded when offered.</i> |  |
| Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 15         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Seminars/tutorials/workshops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Laboratory hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 45         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Field experience hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 90         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Experiential (practicum, internship, etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Online learning activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Other contact hours:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>150</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            | <b>Maximum enrolment (for information only): 24</b><br><br><b>Expected frequency of course offerings (every semester, annually, every other year, etc.):</b> as interest and instructor availability                                                                                                                                                                                                                                                                                                                                     |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Department / Program Head or Director:</b> Allan Arndt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            | <b>Date approved:</b> September 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Faculty Council approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Campus-Wide Consultation (CWC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            | <b>Date of posting:</b> October 13, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Dean/Associate VP:</b> Lucy Lee                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Undergraduate Education Committee (UEC) approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            | <b>Date of meeting:</b> October 27, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |                              |  |                  |    |                        |    |                                            |  |                            |  |                      |  |              |            |                                                                                                                                                                                                                                                                                                                                                                                                          |  |

**Learning Outcomes**

Upon successful completion of this course, students will be able to:

- Acquire ecological knowledge and explore specific biological characteristics of the tropical ecosystem being studied.
- Research and apply specific biological knowledge and concepts to solve a biological problem in a field setting.
- Collaborate in small and large groups settings to develop research methodology to carry out field work to investigate and answer a biological question.
- Use critical thinking and problem-solving techniques in a small group setting to develop solutions to research problems.
- Evaluate field data, summarize and discuss observed and collected results.
- Communicate scientific observations through one, or more methods (posters, discussions, presentations etc.)
- Engage in discussions on contemporary biological, social and indigenous issues of the region being visited.

**Prior Learning Assessment and Recognition (PLAR)**

☒ Yes      ☐ No, PLAR cannot be awarded for this course because

**Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)**

The student can expect a combination of lecture and student seminar presentation. There will be a large component of field work, which will vary depending on the site being visited, but may include small research projects, observational learning in the field, practical conservation field work, demonstrative learning from local experts in the field, site specific visits for experiential learning etc.

**Grading system:** Letter Grades: ☒ Credit/No Credit: ☐ Labs to be scheduled independent of lecture hours: Yes ☐ No ☐

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Typical Text(s) and Resource Materials (if more space is required, download Supplemental Texts and Resource Materials form)**

| Author (surname, initials) | Title (article, book, journal, etc.) | Current ed.              | Publisher | Year |
|----------------------------|--------------------------------------|--------------------------|-----------|------|
| 1.                         |                                      | <input type="checkbox"/> |           |      |
| 2.                         |                                      | <input type="checkbox"/> |           |      |
| 3.                         |                                      | <input type="checkbox"/> |           |      |
| 4.                         |                                      | <input type="checkbox"/> |           |      |
| 5.                         |                                      | <input type="checkbox"/> |           |      |

**Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)**
**Typical Evaluation Methods and Weighting**

|                |     |                       |     |                 |     |            |      |
|----------------|-----|-----------------------|-----|-----------------|-----|------------|------|
| Final exam:    | %   | Assignments:          | %   | Midterm exam:   | %   | Practicum: | %    |
| Quizzes/tests: | %   | Lab work:             | %   | Field journal:  | 25% | Shop work: | %    |
| Term paper:    | 30% | Seminar presentation: | 15% | Project report: | 30% | Total:     | 100% |

**Details (if necessary):**
**Typical Course Content and Topics**

This course is designed to take advantage of biological expertise within the department and in the community.

**Introduction to Tropical Ecosystem Diversity:**

- What are the tropics: brief geographical and climatic overview
- Latitudinal and altitudinal patterns of diversity
- Neotropics vs. paleotropics,  $\alpha$ ,  $\beta$  and  $\gamma$  diversity
- Influence of climate and topography on life zone distribution

**Conservation Issues and Approaches:**

- Endangered species monitoring
- Causes and consequences of habitat loss
- Edge effects and other abiotic effects of fragmentation
- Identifying conservation priorities (hotspots, gap analysis, red-lists, GIS)
- Parks and reserves (successes, failures, buffer-zone management, private lands, ecotourism)
- In-situ vs. ex-situ conservation examples
- Wildlife management: hunting and farming for conservation

This course is expected to vary each time it is offered, depending on the instructor and the specialist area to be investigated.

**Memo for Course Changes**

To: Undergraduate Education Committee

From: Lucki Kang, Field Education Coordinator

School of Social Work and Human Services, Faculty of Professional Studies

Date: Oct. 12, 2017

**Subject: Proposal for revision of SOWK 330**

**1. Summary of changes (select all that apply):**

- ☒ Six-year review
- ☐ Number and/or course code
- ☐ Credits and/or total hours
- ☒ Title
- ☒ Calendar description
- ☒ Prerequisites and/or co-requisites
- ☒ Frequency of course offering
- ☒ Learning outcomes
- ☒ Delivery methods and/or texts and resource materials
- ☐ PLAR options, grading system, and/or evaluation methods
- ☐ Discontinuation of course
- ☐ Other – Please specify:

**2. Rationale for change:**

- The School of Social Work and Human Services is moving towards incremental learning outcomes between all of its programs, including the field education component of these programs. The course outline for SOWK 330 is being revised as per review cycle. The title of the course (BSW Practicum I) has been adjusted to, clearly indicate this is a Bachelor level practicum and is I of II. This is consistent with the titles of HSER courses (HSER Practicum I and II)
- The Calendar description has been adjusted to comply with the 40 word UFV Guidelines and outline clear expectations of students. Incremental learning has been reflected in the course description. A note has been added to the Calendar Description section to provide an option for course delivery as a block or over two terms (SOWK 330A and SOWK 330B) to allow for flexibility to students and increased placement options.
- Based on the TRC Recommendations, our commitment to our Indigenous communities, and student feedback, the school has added the Aboriginal Social Work course (SOWK 392) as a pre/co-requisite for SOWK 330 to ensure students have taken the course prior to their first field placement (SOWK 330). It was previously a pre/co-requisite for the second field placement (SOWK 430). The

school is in the process of adjusting the timetabling of the aboriginal course to ensure that students will be successful in taking it as a pre/co-requisite to SOWK 330 instead of SOWK 430.

- The number of instructional hours has not changed, however, we have adjusted the hours to include pre-placement preparation activities to ensure these are included as part of the course. The pre-placement activities will be organized and delivered by the Field Education Coordinator.
- There is an increase in the maximum number of students per section (14-16) as per a decision made by the school to have consistency across its programs.
- The course offering language has been changed to 'annually' to maintain consistency in field courses across our programs and to allow for flexibility for the course to be offered more or less times in the calendar year based on student need and success.
- The learning outcomes of this course have been rewritten using learning outcome language, reflecting the current realities of these courses as well as in keeping with the School's mission statement and the objectives of the Bachelor of Social Work Program and keeping in mind incremental learning and critical reflection.
- The PLAR section has not changed other than to provide clarity to students that they cannot use the same experience to challenge their Diploma and Degree practicum.
- Instructional methods have been reworded for clarity.
- Textbook has been removed as this is a reflective course and seminar time is focused on analysis of students' field based experiences. The School has developed Field Placement Guidelines that are a required reading for students.
- Course is graded on a credit/no credit basis. Clarity has been provided in the expectations of students for successful completion.
- Typical course content and topics have been identified. The first 4 are required and the remaining are selected based upon student interest and need.
- We have added the delivery option of offering this course as a full-year, over 2 terms (SOWK 330A & SOWK 330B), to allow for student flexibility and to address the lack of field placements available to students and in addition this format is conducive to specific field placements that require a longer continuity of learning, such as counselling or school district placements. This format would also allow pre-placement seminars to be included as part of the course hours.

**3. If there are substantial changes to the learning outcomes, explain how they align with the learning outcomes of the program(s):**

- The learning outcomes are clearer and reflect an expectation of critical analysis and reflexivity.

**4. Is this course required by any program beyond the discipline? If so, how will this change affect that program or programs?**

- No, this course is only available to students in the Bachelor of Social Work Program

**5. Which program areas have been consulted about the change(s)?**

Students who have completed this course were consulted on their feedback. All faculty and staff in the School of Social Work & Human Services have been consulted on these changes. They have been reviewed at the Field Education Committee, the Curriculum Committee, and School Committee. These course outlines were approved by the Field Education committee, Curriculum committee, and School committee prior to being sent to Faculty Council.

**6. What consideration has been given to indigenizing the curriculum?**

- Our Aboriginal Social Work course has been added to be a pre/co-requisite for the first degree level practicum as it was historically a pre-requisite for just the second degree level practicum.
- Learning outcomes specific to Indigenous learning have been added to the course outlines.

**7. If this course is not eligible for PLAR, explain why:**

- SOWK 330 is eligible for PLAR. Clear guidelines are in place. Clarity has been provided that if students PLAR the diploma practicum, they are not able to PLAR the degree practicum as this is an applied, practice based program.

**8. If any of the following items on the official course outline have changed, explain how the change will affect the budget for your area or any other area:**

**a. Credit value**

- No change

**b. Class size limit**

- Increase in class size limit by 2 students

**c. Frequency of offering**

- Outline reflects that course can be offered annually if needed based on student need

**d. Resources required (labs, equipment)**

- N/A

**9. Are field trips required for this course? (Field trip requirements must be announced in the timetable.) How are the trips funded?**

- N/A

**10. Estimate of the typical costs for this course, including textbooks and other materials:**

- Students enrolled in practicum courses pay for their tuition, a criminal records check, as well as any transportation costs to and from their practicum agencies. No additional costs are incurred.


**ORIGINAL COURSE IMPLEMENTATION DATE:**
**REVISED COURSE IMPLEMENTATION DATE:**

September 2018

**COURSE TO BE REVIEWED:** (six years after UEC approval)

October 2023

**Course outline form version:** 09/15/14

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

**Note: The University reserves the right to amend course outlines as needed without notice.**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------|----|------------------|--|------------------------|-----|--------------------------------------------|--|----------------------------|--|-----------------------------------------------------------------------------------|----|--------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Course Code and Number:</b> SOWK 330<br>(may be offered as SOWK 330A/SOWK 330B)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Number of Credits:</b> 6 <a href="#">Course credit policy (105)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Course Full Title:</b> BSW Practicum I<br><b>Course Short Title (if title exceeds 30 characters):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Faculty:</b> Faculty of Professional Studies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Department:</b> School of Social Work and Human Services                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Calendar Description:</b><br><br>A supervised field placement in an approved setting to introduce multilevels of professional social work practice. Students will integrate and critically reflect on social work knowledge, skills, theory, ethics, and values.<br><br>Note: Attendance in pre-placement activities, practicum, and seminars is required.<br>Note: This course is offered either as SOWK 330 or (SOWK 330A and 330B). When run as a full year course SOWK 330A and SOWK 330B are offered over two terms in the same academic year. Students must take both SOWK 330A and SOWK 330B to receive credit.                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Prerequisites (or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Admission into the Bachelor of Social Work, SOWK 300, and SOWK 311.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Pre/corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | SOWK 312, SOWK 320, and SOWK 392                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Equivalent Courses (cannot be taken for additional credit)</b><br>Former course code/number: <b>SSSW 330</b><br>Cross-listed with:<br>Equivalent course(s):<br><i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Transfer Credit</b><br>Transfer credit already exists: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br><br>Transfer credit requested (OREg to submit to BCCAT):<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (if yes, fill in transfer credit form)<br><br>Resubmit revised outline for articulation: <input type="checkbox"/> Yes <input type="checkbox"/> No<br>To find out how this course transfers, see <a href="http://bctransferguide.ca">bctransferguide.ca</a> . |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Total Hours: 336</b><br><b>Typical structure of instructional hours:</b> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr><td>Lecture hours</td><td></td></tr> <tr><td>Seminars/tutorials/workshops</td><td style="text-align: center;">21</td></tr> <tr><td>Laboratory hours</td><td></td></tr> <tr><td>Field experience hours</td><td style="text-align: center;">305</td></tr> <tr><td>Experiential (practicum, internship, etc.)</td><td></td></tr> <tr><td>Online learning activities</td><td></td></tr> <tr><td>Other contact hours: Field Coordinator Pre-placement seminars/Practice Conference</td><td style="text-align: center;">10</td></tr> <tr><td style="text-align: right;"><b>Total</b></td><td style="text-align: center;"><b>336</b></td></tr> </table> | Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | Seminars/tutorials/workshops | 21 | Laboratory hours |  | Field experience hours | 305 | Experiential (practicum, internship, etc.) |  | Online learning activities |  | Other contact hours: Field Coordinator Pre-placement seminars/Practice Conference | 10 | <b>Total</b> | <b>336</b> | <b>Special Topics</b><br>Will the course be offered with different topics?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br><br>If yes, different lettered courses may be taken for credit:<br><input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit<br><i>Note: The specific topic will be recorded when offered.</i><br><br><b>Maximum enrolment (for information only)16</b><br><b>Expected frequency of course offerings (every semester, annually, every other year, etc.):</b> Annually |
| Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Seminars/tutorials/workshops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 21                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Laboratory hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Field experience hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 305                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Experiential (practicum, internship, etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Online learning activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Other contact hours: Field Coordinator Pre-placement seminars/Practice Conference                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>336</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Department / Program Head or Director:</b> Dr. Margaret Coombes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Date approved:</b> June 16, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Faculty Council approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Date approved:</b> September 15, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Campus-Wide Consultation (CWC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Date of posting:</b> October 13, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Dean/Associate VP:</b> Dr. Tracy Ryder Glass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Date approved:</b> September 15, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Undergraduate Education Committee (UEC) approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Date of meeting:</b> October 27, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

**Learning Outcomes**

Upon successful completion of this course, students will be able to:

- Recognize social justice issues in practice situations
- Apply the BCCSW Code of Ethics and Standards of Practice to ethical dilemmas experienced in field placement
- Reflect on knowledge and use of self in relation to developing professional social work practice
- Engage in and describe the integration of the micro, mezzo, and macro levels of social work practice
- Utilize an integrated and interdisciplinary approach when working with individuals, groups, communities, and systems
- Practice assessment and relationship building with individuals, groups and communities
- Demonstrate professional written, verbal and nonverbal communication skills
- Critically reflect on the application of classroom learning, knowledge and skills to practice based situations
- Identify theories and describe how they are applied in the field placement
- Demonstrate humility in practice situations
- Critically reflect upon various forms of diversity
- Identify the diversity of Indigenous worldviews and develop one's professional philosophy and practice to respect these indigenous worldviews
- Identify and reflect on international perspectives in social work practice and develop one's professional philosophy and practice to respect these worldviews as they apply to practice
- Analyze collaborative practice within teams and describe leadership skills that align with social work
- Identify various forms of supervision and articulate your supervision needs
- Articulate transferable social work skills acquired throughout field placement

**Prior Learning Assessment and Recognition (PLAR)**

☒ Yes      ☐ No, PLAR cannot be awarded

Note: Students who have received PLAR for HSER 130 and/or HSER 230 will not receive PLAR for SOWK 330.

**Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)**

Group and class discussion, presentations, critical reflection (verbal and written), collaborative learning, guest lecturers, field projects.

**Grading system:** Letter Grades: ☐ Credit/No Credit: ☒ Labs to be scheduled independent of lecture hours: Yes ☐ No ☒

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Typical Text(s) and Resource Materials (if more space is required, download Supplemental Texts and Resource Materials form)**

| Author (surname, initials)      | Title (article, book, journal, etc.)                 | Current ed.                         | Publisher | Year    |
|---------------------------------|------------------------------------------------------|-------------------------------------|-----------|---------|
| 1. BC College of Social Workers | Social Work Code of Ethics and Standards of Practice | <input checked="" type="checkbox"/> |           | Current |
| 2.                              |                                                      | <input checked="" type="checkbox"/> |           |         |
| 3.                              |                                                      | <input type="checkbox"/>            |           |         |
| 4.                              |                                                      | <input type="checkbox"/>            |           |         |
| 5.                              |                                                      | <input type="checkbox"/>            |           |         |

**Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)**

UFV Bachelor of Social Work Program Field Education Manual and School of Social Work & Human Services Field Practice Guidelines

**Typical Evaluation Methods and Weighting**

|                |   |              |   |                             |      |            |      |
|----------------|---|--------------|---|-----------------------------|------|------------|------|
| Final exam:    | % | Assignments: | % | Midterm exam:               | %    | Practicum: | %    |
| Quizzes/tests: | % | Lab work:    | % | Field/Practicum experience: | 100% | Shop work: | %    |
| Other:         | % | Other:       | % | Other:                      | %    | Total:     | 100% |

**Details (if necessary):**

Successful completion of this course involves:

- Mandatory attendance in all pre-placement activities
- Attendance and engagement in field placement measured through seminar participation and feedback from the field instructor
- Mandatory attendance in concurrent seminars
- Completion of reflective Process Recordings/Journals
- Adding field-based learning to the E-Portfolio
- Completion of all IPT documentation including mid-term and final evaluations
- Completion of field placement evaluation

**Typical Course Content and Topics**

1. Expectations and processes involved in field placement including safety planning, review of field practice guidelines
2. BCCSW Code of Ethics and Standards of Practice and Professionalism
3. Use of self in supervision
4. Reflexivity in social work practice
5. Topics identified by students in practicum

**Potential Topics**

- Social justice in practicum
- Connection of micro, mezzo, and macro practice
- Use of technology and social media in social work practice
- Trauma informed practice
- Grief and loss
- Confidentiality and its limits
- Documentation
- Connection between theory and practice
- Impact of international issues on social work practice with local populations
- Spirituality versus the secular profession of social work
- Diversity in Indigenous worldviews
- Impact of policy in social work
- Self-care and resiliency
- Develop your definition of social work

**Memo for Course Changes**

To: Undergraduate Education Committee

From: Lucki Kang, Field Education Coordinator

School of Social Work and Human Services, Faculty of Professional Studies

Date: Oct. 12, 2017

**Subject: Proposal for revision of SOWK 430**

**1. Summary of changes (select all that apply):**

- ☒ Six-year review
- ☐ Number and/or course code
- ☐ Credits and/or total hours
- ☒ Title
- ☒ Calendar description
- ☒ Prerequisites and/or co-requisites
- ☒ Frequency of course offering
- ☒ Learning outcomes
- ☒ Delivery methods and/or texts and resource materials
- ☐ PLAR options, grading system, and/or evaluation methods
- ☐ Discontinuation of course
- ☐ Other – Please specify:

**2. Rationale for change:**

- The School of Social Work and Human Services is moving towards incremental learning outcomes between all of its programs, including the field education component of these programs. The course outline for SOWK 430 is being revised as per review cycle. The title of the course (BSW Practicum II) has been adjusted to, clearly indicate this is a Bachelor level practicum and is the second one. This is consistent with the titles of HSER courses (HSER Practicum I and II)
- The Calendar description has been adjusted to comply with the 40 word UFV Guidelines and outline clear expectations of students. Incremental learning has been reflected in the course description. A note has been added to the Calendar Description section to provide an option for course delivery as a block or over two terms (SOWK 430A and SOWK 430B) to allow for flexibility to students and increased placement options.
- SOWK 312 has been added to the official course outline to maintain consistency as the other co-requisites were named in the existing course outline. This is included to ensure that SOWK 312 is taken as a pre/co-requisite prior to the first degree level practicum (SOWK 330) and is not missed due to sequencing of courses.

- The number of instructional hours has not changed, however, we have adjusted the hours to include pre-placement preparation activities to ensure these are included as part of the course. The pre-placement activities will be organized and delivered by the Field Education Coordinator.
- There is an increase in the maximum number of students per section (14-16) as per a decision made by the school to have consistency across its programs.
- The course offering language has been changed to 'annually' to maintain consistency in field courses across our programs and to allow for flexibility for the course to be offered more or less times in the calendar year based on student need and success.
- The learning outcomes of this course have been rewritten using learning outcome language, reflecting the current realities of enhancing critical reflection skills in the course as well as in keeping with the School's mission statement and the objectives of the Bachelor of Social Work Program and keeping in mind incremental learning.
- The PLAR section has not changed other than to provide clarity to students that this course is to be taken as the last course in the program.
- Instructional methods have been reworded for clarity.
- Textbook has been removed as this is a reflective course and seminar time is focused on analysis of students' field based experiences. The School has developed Field Placement Guidelines that are a required reading for students.
- Course is graded on a credit/no credit basis. Clarity has been provided in the expectations of students for successful completion.
- Typical course content and topics have been identified. The first 4 are required and the remaining are selected based upon student interest and need.
- We have added the delivery option of offering this course as a full-year, over 2 terms (SOWK 430A & SOWK 430B), to allow for student flexibility and to address the lack of field placements available to students and in addition this format is conducive to specific field placements that require a longer continuity of learning, such as counselling or school district placements. This format would also allow pre-placement seminars to be included as part of the course hours.

**3. If there are substantial changes to the learning outcomes, explain how they align with the learning outcomes of the program(s):**

- The learning outcomes are clearer and reflect an expectation of critical analysis and reflexivity.
- 4. Is this course required by any program beyond the discipline? If so, how will this change affect that program or programs?**
- No, this course is only available to students in the Bachelor of Social Work Program
- 5. Which program areas have been consulted about the change(s)?**
- Students who have completed this course were consulted on their feedback. All faculty and staff in the School of Social Work & Human Services have been consulted on these changes. They have been reviewed at the Field Education Committee, the Curriculum Committee, and School Committee. These course outlines were approved by the Field Education committee, Curriculum committee, and School committee prior to being sent to Faculty Council.
- 6. What consideration has been given to indigenizing the curriculum?**
- Our Aboriginal Social Work course is a pre/co-requisite for the first degree level practicum (SOWK 330). Students build upon their knowledge and skills in working with Indigenous communities through the two field placements.
  - Learning outcomes specific to Indigenous learning have been added to the course outlines.
- 7. If this course is not eligible for PLAR, explain why:**
- SOWK 430 is not eligible for PLAR. Clear guidelines are in place. The Bachelor of Social Work degree practicum is an applied, practice based program that requires students to engage in practice based learning.
- 8. If any of the following items on the official course outline have changed, explain how the change will affect the budget for your area or any other area:**
- a. **Credit value**
    - No change
  - b. **Class size limit**
    - Increase in class size limit by 2 students
  - c. **Frequency of offering**
    - Outline reflects that course can be offered annually if needed based on student need
  - d. **Resources required** (labs, equipment)
    - N/A
- 9. Are field trips required for this course? (Field trip requirements must be announced in the timetable.) How are the trips funded?**
- N/A
- 10. Estimate of the typical costs for this course, including textbooks and other materials:**

- Students enrolled in practicum courses pay for their tuition, a criminal records check, as well as any transportation costs to and from their practicum agencies. No additional costs are incurred.


**ORIGINAL COURSE IMPLEMENTATION DATE:**
**REVISED COURSE IMPLEMENTATION DATE:**

September 2018

**COURSE TO BE REVIEWED:** (six years after UEC approval)

October 2023

**Course outline form version:** 09/15/14

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

**Note: The University reserves the right to amend course outlines as needed without notice.**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------|----|------------------|--|------------------------|-----|--------------------------------------------|--|----------------------------|--|-----------------------------------------------------------------------------------|----|--------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Course Code and Number:</b> SOWK 430<br>(may be offered as SOWK 430A/SOWK 430B)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Number of Credits:</b> 9 <a href="#">Course credit policy (105)</a>                                                                                                                                                                                                                                                                                                                                     |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Course Full Title:</b> BSW Practicum II<br><b>Course Short Title (if title exceeds 30 characters):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Faculty:</b> Faculty of Professional Studies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Department:</b> School of Social Work and Human Services                                                                                                                                                                                                                                                                                                                                                |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Calendar Description:</b><br><br>Supervised field placement in an approved setting to further develop professional social work practice. Students will critically reflect upon and integrate knowledge, skills, theory, policy, research, and ethics.<br><br>Note: Attendance in pre-placement activities, practicum, and seminars is required.<br>Note: This course is offered either as SOWK 430 or (SOWK 430A and 430B). When run as a full year course SOWK 430A and SOWK 430B are offered over two terms in the same academic year. Students must take both SOWK 430A and SOWK 430B to receive credit.                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Prerequisites (or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | SOWK 312, SOWK 320, SOWK 330, SOWK 392, SOWK 404, and SOWK 410.<br>Note: Students in the Child Welfare Specialization must have the following additional prerequisites: SOWK 412, SOWK 483, and SOWK 491.<br>Note: Students should take this course in the final semester of their program.                                                                                                                |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Pre/corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Equivalent Courses (cannot be taken for additional credit)</b><br>Former course code/number: <b>SSSW 430</b><br>Cross-listed with:<br>Equivalent course(s):<br><i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Transfer Credit</b><br>Transfer credit already exists: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Transfer credit requested (OREg to submit to BCCAT):<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (if yes, fill in transfer credit form)<br>Resubmit revised outline for articulation: <input type="checkbox"/> Yes <input type="checkbox"/> No |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Total Hours: 441</b><br><b>Typical structure of instructional hours:</b> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr><td>Lecture hours</td><td></td></tr> <tr><td>Seminars/tutorials/workshops</td><td style="text-align: center;">21</td></tr> <tr><td>Laboratory hours</td><td></td></tr> <tr><td>Field experience hours</td><td style="text-align: center;">410</td></tr> <tr><td>Experiential (practicum, internship, etc.)</td><td></td></tr> <tr><td>Online learning activities</td><td></td></tr> <tr><td>Other contact hours: Field Coordinator Pre-placement seminars/Practice Conference</td><td style="text-align: center;">10</td></tr> <tr><td style="text-align: right;"><b>Total</b></td><td style="text-align: center;"><b>441</b></td></tr> </table> | Lecture hours                                                                                                                                                                                                                                                                                                                                                                                              |  | Seminars/tutorials/workshops | 21 | Laboratory hours |  | Field experience hours | 410 | Experiential (practicum, internship, etc.) |  | Online learning activities |  | Other contact hours: Field Coordinator Pre-placement seminars/Practice Conference | 10 | <b>Total</b> | <b>441</b> | <b>Special Topics</b><br>Will the course be offered with different topics?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>If yes, different lettered courses may be taken for credit:<br><input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit<br><i>Note: The specific topic will be recorded when offered.</i> |
| Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| Seminars/tutorials/workshops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 21                                                                                                                                                                                                                                                                                                                                                                                                         |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| Laboratory hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| Field experience hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 410                                                                                                                                                                                                                                                                                                                                                                                                        |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| Experiential (practicum, internship, etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| Online learning activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| Other contact hours: Field Coordinator Pre-placement seminars/Practice Conference                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 10                                                                                                                                                                                                                                                                                                                                                                                                         |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>441</b>                                                                                                                                                                                                                                                                                                                                                                                                 |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Maximum enrolment (for information only):</b> 16<br><br><b>Expected frequency of course offerings (every semester, annually, every other year, etc.):</b> Annually                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Department / Program Head or Director:</b> Dr. Margaret Coombes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Date approved:</b> June 16, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Faculty Council approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Date approved:</b> September 15, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Campus-Wide Consultation (CWC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Date of posting:</b> October 13, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Dean/Associate VP:</b> Dr. Tracy Ryder-Glass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Date approved:</b> September 15, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Undergraduate Education Committee (UEC) approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Date of meeting:</b> October 27, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                                                                   |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                  |

**SOWK 430**
**University of the Fraser Valley Official Undergraduate Course Outline**
**Page 2 of 3**
**Learning Outcomes**

Upon successful completion of this course, students will be able to:

- Integrate social justice issues in social work practice
- Apply the BCCSW Social Work Code of Ethics and Standards of Practice to practice situations
- Determine the use of self to further develop professional boundaries, self-care, and social work foundation
- Evaluate systemic issues that may affect social work practice at the micro, mezzo, and macro levels
- Critically reflect on engagement in assessment, planning, intervention, and evaluation
- Develop clear and concise skills in reflective practice
- Apply classroom learning, theory, knowledge and skills to social work practice
- Cultivate social work leadership and collaborative practice within interdisciplinary teams
- Evaluate communication skills and relationship building in social work practice (verbal, non-verbal, written)
- Explain various forms of diversity and the importance of humility and cultural safety in social work practice
- Apply knowledge of international worldviews to develop one's professional philosophy and social work practice coming from a place of curiosity
- Apply knowledge of and respect diverse Indigenous worldviews to develop one's professional philosophy and social work practice coming from a place of curiosity
- Critically reflect on various forms of supervision and mentorship
- Assess self-directedness in seeking supervision
- Appraise professional social work expectations in the field
- Summarize transferable social work skills learned in field placement

**Prior Learning Assessment and Recognition (PLAR)**

☐ Yes      ☒ No, PLAR cannot be awarded for this course because students must complete a practicum at the end of their program.

**Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)**

Group and class discussion, presentations, critical reflection (verbal and written), collaborative learning, guest lecturers, field projects.

**Grading system:** Letter Grades: ☐ Credit/No Credit: ☒ Labs to be scheduled independent of lecture hours: Yes ☐ No ☒

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Typical Text(s) and Resource Materials (if more space is required, download Supplemental Texts and Resource Materials form)**

| Author (surname, initials)      | Title (article, book, journal, etc.)                 | Current ed.                         | Publisher | Year    |
|---------------------------------|------------------------------------------------------|-------------------------------------|-----------|---------|
| 1. BC College of Social Workers | Social Work Code of Ethics and Standards of Practice | <input checked="" type="checkbox"/> |           | Current |
| 2.                              |                                                      | <input checked="" type="checkbox"/> |           |         |
| 3.                              |                                                      | <input type="checkbox"/>            |           |         |
| 4.                              |                                                      | <input type="checkbox"/>            |           |         |
| 5.                              |                                                      | <input type="checkbox"/>            |           |         |

**Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)**

UFV Bachelor of Social Work Program Field Education Manual and School of Social Work & Human Services Field Practice Guidelines

**Typical Evaluation Methods and Weighting**

|                |   |              |   |                             |      |            |      |
|----------------|---|--------------|---|-----------------------------|------|------------|------|
| Final exam:    | % | Assignments: | % | Midterm exam:               | %    | Practicum: | %    |
| Quizzes/tests: | % | Lab work:    | % | Field/Practicum experience: | 100% | Shop work: | %    |
| Other:         | % | Other:       | % | Other:                      | %    | Total:     | 100% |

**Details (if necessary):**

Successful completion of this course involves:

- Mandatory attendance in all pre-placement activities
- Attendance and engagement in field placement measured through seminar participation and feedback from the field instructor
- Mandatory attendance in concurrent seminars
- Completion of reflective Process Recordings/Journals
- Adding field-based learning to the E-Portfolio
- Completion of all IPT documentation including mid-term and final evaluations
- Completion of field placement evaluation

**Typical Course Content and Topics**

1. Expectations and processes involved in field placement including review of field practice guidelines
2. BCCSW Code of Ethics and Standards of Practice and Professionalism
3. Use of self in supervision
4. Reflexivity in social work practice
5. Topics identified by students

**Potential Topics**

- Practice from an anti-oppressive lens in an environment that might be oppressive to social work
- Social work leadership within the interdisciplinary team
- Impact of policy on social work practice
- Confidentiality and its limits
- Social work documentation
- Connection of theory and practice
- Self-care and resiliency in our profession
- Development of a definition of social work
- Diversity in practice
- Trauma-informed practice
- Grief and loss
- Use of technology and social media in social work practice
- Impact of international issues on social work practice with local populations
- Engage Indigenous populations and explore diverse worldviews

**Memo for New Course**

To: Undergraduate Education Committee

From: Lucki Kang, Chair – Field Education

Date: October 12, 2017

**Subject: SOWK 431**

**1. Rationale for new course:**

The course is the practicum component of the non-BSW entry into the MSW program. There is not currently an approved practicum course for this stream.

We have added the delivery option of offering this course as a full-year, over 2 terms (SOWK 431A & SOWK 431B), to allow for student flexibility and to address the lack of field placements available to students and in addition this format is conducive to specific field placements that require a longer continuity of learning, such as counselling or school district placements. This format would also allow pre-placement seminars to be included as part of the course hours.

Accreditation standards for non-BSW MSW requires a minimum of 450 field experience hours.

**2. How this new course fits into program(s):**

It provides learning outcomes that are consistent with the BSW practicum courses, ensuring students enter the MSW program with an understanding of the range and context of practice for Social Work Professionals.

**3. Explain how the course learning outcomes align with the learning outcomes of the program(s):**

The Course Learning Outcomes are consistent with the Learning Outcomes that all BSW students are required to achieve prior to graduation.

**4. Will this course be required by any program beyond the discipline? If so, how will this course affect that program or programs?**

The course is required for all non-BSW MSW students. It is a prerequisite for SOWK 730, the Masters level practicum course.

**5. Which program areas have been consulted about the course?**

SWHS program areas have been consulted. The non-BSW stream has been previously approved, and was discussed at Professional Studies Faculty Council.

**6. What consideration has been given to indigenizing the curriculum?**

The delivery of the course includes discussion of Social Work practice within the context of the systemic inequities facing Indigenous peoples. Students will also explore the diversity of Indigenous world views and critically reflect on the Truth and Reconciliation Commission's Calls to Action as they relate to Social Work practice.

Further, Indigenization is required at the BSW program level, as outlined by CASWE accreditation. Prior to registering for SOWK 431, the non-BSW MSW students will be required to complete other Core BSW courses that provide foundation learning relevant to Indigenization. For example, SOWK 392 (Aboriginal Social Work), SOWK 320 (Anti-racist social work), and SOWK 311 (which, as part of this course, examines Indigenous frameworks for practice) are all required courses within the non-BSW MSW program, and contribute to a decolonizing of the framework for Social Work practice.

**7. If this course is not eligible for PLAR, explain why:**

This course is not eligible for PLAR as per CASWE Accreditation Standards

**8. Explain how each of the following will affect the budget for your area or any other area:**

- a. Credit value – No Change
- b. Class size limit – No Change
- c. Frequency of offering – No Change
- d. Resources required (labs, equipment) – No change

**9. Are field trips required for this course? (Field trip requirements must be announced in the timetable.) How are the trips funded?**

There are no field trips for this course.

**10. Estimate of the typical costs for this course, including textbooks and other materials:**

Students enrolled in practicum courses pay for their tuition, a criminal records check, as well as any transportation costs to and from their practicum agencies. No additional costs are incurred.

**CWC comments and responses:**

- Pre/corequisites:
  - o This course requires a large time commitment. Will it be possible for students to complete these courses as corequisites, or should they all be prerequisites? If the intention is that students complete SOWK 431 after the other courses but some flexibility may be needed, perhaps it would be simpler to list the courses as prerequisites but specifically add “or by permission”?
  - These courses are listed as pre or co-requisites.*
  - o Should permission be required for admission to this course? (Will the “MSW Foundation Year” be set up as a formal program, or will this just mean admission to the MSW?)
  - Students who do not have a BSW degree will apply to the MSW program through the non BSW MSW application.*

- o The phrase “and 2 electives” should be deleted, as this is not something that can be checked for. If this is really necessary, a minimum number of credits could be included.

*The wording has been changed to reflect a minimum number of credits.*

- Indigenization of this course has the potential to be rich (robust) but in its current writing is thin. The memo points to including “discussion of Social Work practice within the context of the systemic inequities facing Indigenous peoples. Students will also explore the diversity of Indigenous world views and critically reflect on the Truth and Reconciliation Commission’s Calls to Action as they relate to Social Work practice.” However, the course outline states simply that upon successful completion students will be able to “Explore international and indigenous worldviews in a practice context”. Myself I would like students to be able to do more than “explore” particularly at this level. Also, if the TRC calls to action are an integral part of the learning this too should be stated in the learning outcomes, the suggested readings and found in the typical content and topics.

*To maintain consistency with our field courses, we have changed the wording of the learning outcome to: "Apply knowledge of and respect diverse Indigenous worldviews to develop one's professional philosophy and social work practice coming from a place of curiosity while maintaining cultural safety."*



ORIGINAL COURSE IMPLEMENTATION DATE: September 2018  
 REVISED COURSE IMPLEMENTATION DATE:  
 COURSE TO BE REVIEWED: (six years after UEC approval) October 2023  
 Course outline form version: 09/15/14

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

**Note: The University reserves the right to amend course outlines as needed without notice.**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------|----|------------------|--|------------------------|-----|--------------------------------------------|--|----------------------------|--|---------------------------------------------|----|--------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Course Code and Number:</b> SOWK 431<br>(may be offered as SOWK 431A/SOWK 431B)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Number of Credits:</b> 9 <a href="#">Course credit policy (105)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Course Full Title:</b> MSW Foundation Year Practicum<br><b>Course Short Title (if title exceeds 30 characters):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Faculty:</b> Faculty of Professional Studies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Department:</b> School of Social Work and Human Services                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Calendar Description:</b><br><br>Supervised field placement in an approved setting to develop a foundation for professional social work practice. Critical reflection and integration of the knowledge, skills, and theory learned in social work curriculum is required.<br><br>Note: Attendance in pre-placement and integrative seminars is required.<br>Note: This course is offered either as SOWK 431 or (SOWK 431A and 431B). When run as a full year course, SOWK 431A and SOWK 431B are offered over two terms in the same academic year. Students must take both SOWK 431A and SOWK 431B to receive credit.                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Prerequisites (or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Admission to the Master of Social Work – Non-BSW.                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Pre/corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | SOWK 300, SOWK 311, SOWK 312, SOWK 320, SOWK 392, SOWK 404, SOWK 410, and two of the following: (SOWK 301, SOWK 380, SOWK 394, SOWK 412, SOWK 450, SOWK 483, SOWK 490, SOWK 491, SOWK 493, SOWK 496, or SOWK 497).                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Equivalent Courses (cannot be taken for additional credit)</b><br>Former course code/number:<br>Cross-listed with:<br>Equivalent course(s):<br><i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Transfer Credit</b><br>Transfer credit already exists: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br><br>Transfer credit requested (OReg to submit to BCCAT):<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (if yes, fill in transfer credit form)<br><br>Resubmit revised outline for articulation: <input type="checkbox"/> Yes <input type="checkbox"/> No<br>To find out how this course transfers, see <a href="http://bctransferguide.ca">bctransferguide.ca</a> . |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Total Hours: 480</b><br><b>Typical structure of instructional hours:</b> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr><td>Lecture hours</td><td></td></tr> <tr><td>Seminars/tutorials/workshops</td><td style="text-align: center;">20</td></tr> <tr><td>Laboratory hours</td><td></td></tr> <tr><td>Field experience hours</td><td style="text-align: center;">450</td></tr> <tr><td>Experiential (practicum, internship, etc.)</td><td></td></tr> <tr><td>Online learning activities</td><td></td></tr> <tr><td>Other contact hours: Pre-placement seminars</td><td style="text-align: center;">10</td></tr> <tr><td style="text-align: right;"><b>Total</b></td><td style="text-align: center;"><b>480</b></td></tr> </table> | Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | Seminars/tutorials/workshops | 20 | Laboratory hours |  | Field experience hours | 450 | Experiential (practicum, internship, etc.) |  | Online learning activities |  | Other contact hours: Pre-placement seminars | 10 | <b>Total</b> | <b>480</b> | <b>Special Topics</b><br>Will the course be offered with different topics?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br><br>If yes, different lettered courses may be taken for credit:<br><input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit<br><br><i>Note: The specific topic will be recorded when offered.</i><br><br><b>Maximum enrolment (for information only): 16</b><br><br><b>Expected frequency of course offerings (every semester, annually, every other year, etc.): Every Other Year</b> |
| Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Seminars/tutorials/workshops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Laboratory hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Field experience hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 450                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Experiential (practicum, internship, etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Online learning activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Other contact hours: Pre-placement seminars                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>480</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Department / Program Head or Director:</b> Margaret Coombes, Director                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Faculty Council approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Campus-Wide Consultation (CWC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Dean/Associate VP:</b> Tracy Ryder-Glass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Undergraduate Education Committee (UEC) approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Date approved:</b> May 12, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Date approved:</b> September 15, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Date of posting:</b> October 13, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Date approved:</b> September 15, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Date of meeting:</b> October 27, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |    |                  |  |                        |     |                                            |  |                            |  |                                             |    |              |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

**Learning Outcomes**

Upon successful completion of this course, students will be able to:

- Engage in and critically reflect on multilevel social work practice
- Define professional social work and name transferable social work skills
- Demonstrate a social justice foundation in social work practice
- Engage in assessment and relationship-building skills with individuals, groups, and communities
- Apply and reflect on professional boundaries, ethical practice issues, integration of social work theory, knowledge, skills, and professional social work standards of practice
- Critically reflect on the application of social policy as it affects social work practice
- Identify and critically reflect on social work leadership and collaborative practice within interdisciplinary teams
- Critically reflect on communication skills (verbal, non-verbal, written)
- Demonstrate cultural humility through a respect for human diversity in all its forms and areas of practice.
- Apply knowledge of international worldviews to develop one's professional philosophy and social work practice coming from a place of curiosity
- Apply knowledge of and respect diverse Indigenous worldviews to develop one's professional philosophy and social work practice coming from a place of curiosity
- Demonstrate self-awareness and self-care through a knowledge and use of self
- Critically reflect on student role and actively engage in supervision
- Demonstrate critically reflective writing skills

**Prior Learning Assessment and Recognition (PLAR)**

☐ Yes      ☒ No, PLAR cannot be awarded due to CASWE accreditation standards

**Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)**

The primary emphasis in this integrative seminar will be for students to examine practice experiences through online class discussion, critical reflection, and collaborative learning regarding professional issues, practice situations, and ethical dilemmas. While in their field placement setting, students will be expected to demonstrate competence in their ability to identify, apply, critique and evaluate theories and conceptual frameworks. Selected topics will be covered based on student-identified learning needs and interests. Students will be expected to attend at least two face to face seminars in the term.

Group and class discussion, presentations, critical reflection (verbal and written), collaborative learning, guest lecturers, field trips

**Grading system:** Letter Grades: ☐ Credit/No Credit: ☒ Labs to be scheduled independent of lecture hours: Yes ☐ No ☒

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Typical Text(s) and Resource Materials (if more space is required, download Supplemental Texts and Resource Materials form)**

| Author (surname, initials)      | Title (article, book, journal, etc.)                 | Current ed.                         | Publisher | Year    |
|---------------------------------|------------------------------------------------------|-------------------------------------|-----------|---------|
| 1. BC College of Social Workers | Social Work Code of Ethics and Standards of Practice | <input checked="" type="checkbox"/> |           | Current |
| 2.                              |                                                      | <input checked="" type="checkbox"/> |           |         |
| 3.                              |                                                      | <input type="checkbox"/>            |           |         |
| 4.                              |                                                      | <input type="checkbox"/>            |           |         |
| 5.                              |                                                      | <input type="checkbox"/>            |           |         |

**Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)**

UFV Master of Social Work Field Education Manual and School of Social Work & Human Services Field Practice Guidelines.

**Typical Evaluation Methods and Weighting**

|                |   |              |   |                             |      |            |      |
|----------------|---|--------------|---|-----------------------------|------|------------|------|
| Final exam:    | % | Assignments: | % | Midterm exam:               | %    | Practicum: | %    |
| Quizzes/tests: | % | Lab work:    | % | Field/Practicum experience: | 100% | Shop work: | %    |
| Other:         | % | Other:       | % | Other:                      | %    | Total:     | 100% |

**Details (if necessary):**

**Typical Course Content and Topics**

1. Expectations and processes involved in field placement, including review of field practice guidelines
2. BCCSW Code of Ethics and Standards of Practice and Professionalism
3. Use of self in supervision
4. Reflexivity in social work practice
5. Topics identified by students in practicum

**Potential Topics**

- What does social justice look like in practicum?
- What does human diversity look like in practicum?
- Practicing from an anti-oppressive lens in an environment that might be oppressive

**SOWK 431**

**University of the Fraser Valley Official Undergraduate Course Outline**

Page 3 of 3

- What does Social Work Leadership look like on the interdisciplinary team?
- Navigating systems in practice
- Interconnectedness of multi-levels of social work practice
- Use of technology and social media in social work practice
- Trauma-informed practice
- Grief and loss
- Confidentiality
- Documentation
- Building connections between theory and practice
- Impact of international issues on social work practice with local populations
- Exploring the diversity in indigenous worldviews

**Memo for Program Changes**

To: Campus Wide Consultation

From: Karen Klenk, Program Coordinator UFV Certified Dental Assistant program

Date: May 17, 2017

**Subject: Proposal for revision of prerequisites for Certified Dental Assistant program**

**Summary of changes**

(select all that apply):

- ☐ Program revision that requires new resources
- ☐ Addition of new course options or deletion or substitution of a required course
- ☐ Change to the majority of courses in an approved program
- ☐ Change to the duration, philosophy, or direction of a program
- ☐ Addition of a new field of specialization, such as a concentration
- ☒ Change in requirements for admission
- ☐ Change in requirements for residency or continuance
- ☐ Change in admission quotas
- ☐ Change which triggers an external review
- ☐ Deletion of a program not included in the Program Discontinuance policy
- ☐ Other – Please specify:

**1. Rationale for change(s):**

In 2016 the UFV Certified Dental Assistant program completed an external health education program review by the Commission on Dental Accreditation of Canada. During the program review process it was identified that the UFV Certified Dental Assistant program has a higher GPA and number of entrance requirements compared to other similar accredited programs at both a provincial and national level. As a result UFV Certified Dental Assistant program faculty re-evaluated the necessary prerequisite training required for preparing applicants for success in the program. Based on these evaluations the program would like to propose the removal of Biology 11 and Chemistry 11 from its program entrance requirements with a C grade minimum in the following two critical courses, Biology 12 and English 12 or equivalent to align with other comparable accredited Certified Dental Assistant programs.

**2. If program outcomes are new or substantially changed, explain how they align with the Institutional Learning Outcomes:**

Program outcomes will not be effected by entrance requirement changes.

**3. What consideration has been given to indigenizing the curriculum?**

Not applicable.

**4. Will additional resources be required? If so, how will these costs be covered?**

No additional resources will be required with changes to entrance requirements.

**5. How will students be impacted? (Indicate the projected number of students impacted.) Is the change expected to increase/decrease enrolment in the program?**

By aligning the UFV CDA program entrance requirements with other accredited provincial and national programs it should reduce barriers and increase access to a larger pool of potential program applicants.

**6. Does the number of required core or elective credits from the program-specific discipline change? If so, will this change the total number of courses to be offered within the discipline?**

Proposed changes to the programs entrance requirements will not have any impact on required core or elective credits to the CDA program.

**7. Identify any available resources that will be used to accommodate the program changes. (Eg. seats in existing classes, conversion of sections, timetabling changes, deletion of courses, etc.)**

No additional resources will be required to accommodate changes to entrance requirements.

**8. Is the number of required or elective courses from other disciplines in the program changing? If so, what is the estimated impact to enrolments in these courses? Provide a memo from the respective dean(s) of the impacted faculty to confirm if budgetary implications have been considered and addressed.**

The number of required or elective courses from other disciplines in the program would not be impacted by changes to entrance requirements.

**9. Provide a memo from the program's dean to confirm that budgetary implications of the proposed changes have been considered and will be addressed within the faculty budget.**

Changes to program entrance requirements will not have any budgetary implications.

**CWC comments and responses:**

- UEC may want to see additional rationale for this change, beyond a statement that the current requirements are higher than similar accredited programs. Can some specific examples be provided? What is the minimum standard required by the accrediting body?

*Our accrediting body, the Commission on Dental Accreditation of Canada (CDAC), requires that the criteria for admission into a CDA program must include academic preparation with completion of a high school program or equivalent, being the minimum standard assessed. They do not specify what these high school preparation courses need to be. Examples of other similar BC accredited program entrance requirements are as follows. Douglas College, Vancouver Island University, College of New Caledonia, and Camosun College require Biology 12 and English 12 with a minimum C average.*

*The website for the CDAC will only provide you with an overview of the accrediting body and general information about the accreditation process, likely not the details you are looking for. I spoke with Hannah Macdonald this morning and it is my understanding that you discussed some of your questions in regards to this with her. Just to clarify, our request to change entrance requirements to the CDA program was not driven by our accreditation body. During the accreditation process we looked at how our program compares to all the other accredited CDA program in BC. This is what initiated our discussion to look at changing our current entrance requirements as we discovered we do not currently align with all the other programs. The changes we have requested for our program will ensure that they align with all the other accredited programs in BC.*

*As a reference, what follows is a section from the program survey report that was submitted to our accrediting body in 2016 which outlines CDAC's requirement for admission/entrance requirements for CDA programs.*

*Requirement*

*2.1.1 Admission must be based on specific published criteria, readily available to advisors and applicants. Criteria for admission must include academic preparation with completion of a high school program or equivalent, being the minimum standard assessed. For applicants whose primary language is not the language of instruction in the institution, the results of a language proficiency examination must be considered in the admissions process. A candidate's previous academic performance should not be the sole criterion for admission. Selection criteria should encourage recruitment of a diverse student population with appropriate academic preparation to be successful in the program. Faculty members must provide input in the program admission and selection process.*

*An admission committee and/or an equivalent process must be established to select candidates for admission to the program. This committee should include individuals who are qualified to define and evaluate admissions procedures and criteria. Criteria must be applied equitably during the selection process. The process should employ measures designed to select students who are able to succeed in the program.*

# MEMO

To: Undergraduate Education Committee

From: Karen Klenk, Program Coordinator UFV certified Dental Assistant program

Date: 19/05/2017

Subject: Revised Calendar copy for revision of prerequisites for Certified Dental Assistant program

---

In 2016 the UFV Certified Dental Assistant program completed an external health education program review by the Commission on Dental Accreditation of Canada. During the program review process it was identified that the UFV Certified Dental Assistant program has a higher GPA and number of entrance requirements compared to other similar accredited programs at both a provincial and national level. As a result UFV Certified Dental Assistant program faculty re-evaluated the necessary prerequisite training required for preparing applicants for success in the program. Based on these evaluations the program would like to propose the removal of Biology 11 and Chemistry 11 from its program entrance requirements with a C grade minimum in the following two critical courses, Biology 12 and English 12 or equivalent to align with other comparable accredited Certified Dental Assistant programs.

Calendar copy changes (noted below with track changes)

## Entrance requirements

1. B.C. secondary school graduation or equivalent, and a [minimum C grade in C+ average](#) ~~over~~ the following [two](#) ~~four~~ courses: English 12 (see Note) or ENGL 099 or ENGL 091, [and](#) ~~Biology 11 (or UFV BIO 083);~~ Biology 12 (or UFV BIO 093), ~~and Chemistry 11 (or UFV CHEM 083).~~

Note: English 12 equivalent courses include English 12 First Peoples, English Literature 12, AP English, and IB English A (standard level or higher level).

[Applicants must meet the Entry level English language proficiency requirement. For details on how this requirement may be met, see the English language proficiency requirement section of the calendar.](#)



**Memo for Program Changes**

To: UEC

From: Agriculture Technology Department

Date: September 6, 2017

**Subject: Program change - Entrance requirements change for the Agriculture Technology diploma; Horticulture Crop Production and Protection, Livestock Production, Milker Technician certificates; Berry Production, Current Agricultural Practices, Field Vegetable Production and Integrated Pest Management Essentials certificates.**

1. Summary of changes (select all the apply):

- ☐ Program revision that requires new resources
- ☒ Addition of new course options or deletion or substitution of a required course
- ☐ Change to the majority of courses in an approved program
- ☐ Change to the duration, philosophy, or direction of a program
- ☐ Addition of a new field of specialization, such as a concentration
- ☒ Change in requirements for admission
- ☐ Change in requirements for residency or continuance
- ☐ Change in admission quotas
- ☐ Change which triggers an external review
- ☐ Deletion of a program not included in the Program Discontinuance policy
- ☐ Other – Please specify:

2. Rationale for change(s):

| Program                                                                                                                                                    | Proposed changes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Agriculture Technology diploma</b><br><br><b>Horticulture Crop Production and Protection certificate</b><br><br><b>Livestock Production certificate</b> | <ul style="list-style-type: none"> <li>• Remove English 11 as a requirement due to change of English language proficiency requirement</li> <li>• Add Bio 083, Chem 083 or Phys 083 as UFV equivalents for Grade 11 science courses</li> <li>• Biology is the best fit for our program especially with the new Bachelor of Agricultural Science degree being offered now so propose to add “strongly recommended” after Biology 11 or Bio 083</li> <li>• Remove Agriculture 11 and 12 – no longer exists in high school curriculum</li> <li>• The Communications department considers CMNS 125 and ENGL 105 to be equal so propose to accept either.</li> </ul> |
| <b>Horticulture Crop Production and Protection certificate</b>                                                                                             | <ul style="list-style-type: none"> <li>• Remove Agri 194, was discontinued in 2009</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

|                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Milker Technician certificate</b></p> <p><b>Essentials certificates</b></p> <ul style="list-style-type: none"> <li>- <b>Berry Production</b></li> <li>- <b>Current Agricultural Practices</b></li> <li>- <b>Field Vegetable Production</b></li> <li>- <b>Integrated Pest Management</b></li> </ul> | <ul style="list-style-type: none"> <li>• Milker Technician and Essentials certificate students take the same courses as other Ag students so propose to make entrance requirements the same for all programs</li> <li>• Add a Math 11 (or Math 085) and a Science 11 (Biology, Chemistry, Physics, Earth Science)</li> <li>• Add Bio 083, Chem 083 or Phys 083 as UFV equivalents for Grade 11 science courses</li> <li>• Biology is the best fit for our program especially with the new Bachelor of Agricultural Science degree being offered now so propose to add “strongly recommended” after Biology 11 or Bio 083</li> <li>• Delete “Permission of the Agriculture department”. Add the following statement instead to be consistent for all Ag programs: The Agriculture Technology department will also consider applications if they can demonstrate that they have a reasonable chance for success. Applicants will be required to submit a portfolio and/or be interviewed.</li> </ul> |
| <p><b>Milker Technician certificate</b></p>                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>• Admissions asked that <b>good physical health, reliable transportation and valid driver’s license</b> and paragraph about <b>transportation, working with animals and class attendance</b> be moved out of the entrance requirements because they have no way of checking for them. Since we didn’t want to lose them completely, we moved them to Program Requirements.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

3. If program outcomes are new or substantially changed, explain how they align with the Institutional Learning Outcomes: N/A
4. What consideration has been given to indigenizing the curriculum?  
We are in the process of updating our course outlines so will implement individualized indigenizing components during the rewrite.
5. Will additional resources be required? If so, how will these costs be covered?  
No additional resources required.

6. How will students be impacted? (Indicate the projected number of students impacted.) Is the change expected to increase/decrease enrolment in the program?

It is not expected that many students will be impacted by these changes.

Agriculture 11 and 12 haven't been offered for several years so this won't affect any recent graduates.

Students who have taken Engl 105 will not have to take Cmns 125.

Adding Math 11 and Science 11 and/or UFV equivalents should better prepare students for our courses.

7. Does the number of required core or elective credits from the program-specific discipline change? If so, will this change the total number of courses to be offered within the discipline? N/A
8. Identify any available resources that will be used to accommodate the program changes. (Eg. seats in existing classes, conversion of sections, timetabling changes, deletion of courses, etc.) N/A
9. Is the number of required or elective courses from other disciplines in the program changing? If so, what is the estimated impact to enrolments in these courses? Provide a memo from the respective dean(s) of the impacted faculty to confirm if budgetary implications have been considered and addressed. N/A
10. Provide a memo from the program's dean to confirm that budgetary implications of the proposed changes have been considered and will be addressed within the faculty budget. N/A

# Agriculture Technology diploma

## Entrance requirements (one-year certificate and two-year diploma options)

1. ~~The minimum entrance requirement for all Agriculture programs is~~ B.C. secondary school graduation or equivalent, and

~~2. English 11, one of the following Mathematics classes, and one of the following Grade 11 sciences.~~

~~23.~~ One of the following Mathematics classes:

- Foundations of Math 11
- Precalculus 11
- Apprenticeship and Workplace Math 11
- The formerly offered Principles of MATH 11, Applications of Mathematics 11, or Essentials of Mathematics 11-~~or~~
- MATH 085, or equivalent

~~43.~~ One of the following Grade 11 sciences:

- Biology 11 or Bio 083 (strongly recommended)
- Chemistry 11 or Chem 083
- Earth Sciences 11-~~or~~
- Physics 11 or Phys 083
- ~~Agriculture 11 and 12 (a minimum grade of C is required in both Agriculture 11 and Agriculture 12 for admission)~~

5. Applicants must meet the ~~degree~~Degree/diploma level English language proficiency requirement. For details on how this requirement may be met, see the English language proficiency requirement section of the calendar.

6. The Agriculture Technology department will also consider applicants if they can demonstrate that they have a reasonable chance for success. Applicants will be required to submit a portfolio and/ or be interviewed.

## Horticulture Crop Production and Protection certificate

### Entrance requirements (one-year certificate and two-year diploma options)

1. ~~The minimum entrance requirement for all Agriculture programs is~~ B.C. secondary school graduation or equivalent, and

~~2. English 11, one of the following Mathematics classes, and one of the following Grade 11 sciences.~~

~~23.~~ One of the following Mathematics classes:

- Foundations of Math 11
- Precalculus 11
- Apprenticeship and Workplace Math 11
- The formerly offered Principles of MATH 11, Applications of Mathematics 11, or Essentials of Mathematics 11 or
- MATH 085, or equivalent

~~34.~~ One of the following Grade 11 sciences:

- Biology 11 or Bio 083 (strongly recommended)
- Chemistry 11 or Chem 083
- Earth Sciences 11 or
- Physics 11 or Phys 083
- ~~Agriculture 11 and 12 (a minimum grade of C is required in both Agriculture 11 and Agriculture 12 for admission)~~

5. Applicants must meet the ~~Degree/diploma-level~~ Entry-level English language proficiency requirement. For details on how this requirement may be met, see the English language proficiency requirement section of the calendar.

6. The Agriculture Technology department will also consider applicants if they can demonstrate that they have a reasonable chance for success. Applicants will be required to submit a portfolio and/ or be interviewed.

## Horticulture Crop Production and Protection

### Program outline

#### Semester I (Fall)

| Course                         | Title                                                                   | Credits |
|--------------------------------|-------------------------------------------------------------------------|---------|
| AGRI 123                       | Horticulture Skills and Techniques for Fall                             | 3       |
| AGRI 124                       | Introduction to Horticulture                                            | 3       |
| AGRI 142                       | Agribusiness Principles                                                 |         |
| <b>or</b> BUS 100              | Introduction to Business                                                | 3       |
| AGRI 163                       | Pest Biology and Identification                                         | 3       |
| AGRI 220                       | Plants in the Landscape                                                 | 3       |
| <u>CMNS 125</u>                | <u>Communicating Professionally to Academic and Workplace Audiences</u> | 3       |
| <u>or ENGL 105</u>             | <u>Academic Writing</u>                                                 | 3       |
| <b>In even-numbered years:</b> |                                                                         |         |
| AGRI 321                       | Vegetable Crop Production: Science and Practice                         | 3       |
| <b>In odd-numbered years:</b>  |                                                                         |         |
| AGRI 323                       | Fruit Crop Production: Science and Practice                             | 3       |

**Semester II (Winter)**

| <b>Course</b>          | <b>Title</b>                                             | <b>Credits</b> |
|------------------------|----------------------------------------------------------|----------------|
| AGRI 129               | Horticulture Skills and Techniques for Winter            | 3              |
| AGRI 183               | Farm and Equipment Safety                                | 3              |
| AGRI 192               | Practicum I                                              | 3              |
| <del>or AGRI 194</del> | <del>Practical Horticulture (formerly offered)</del>     |                |
| AGRI 203               | Fundamentals of Pest Management                          | 3              |
| AGRI 204               | Introduction to Soils and Soil Fertility                 | 3              |
| AGRI 324               | Greenhouse Production: Science and Practice              | 3              |
| AGRI 327               | Nursery Production and Propagation: Science and Practice | 3              |

# Livestock Production certificate

## Entrance requirements

1. ~~The minimum entrance requirement for all Agriculture programs is~~ B.C. secondary school graduation or equivalent, and

~~2. English 11, one of the following Mathematics classes, and one of the following Grade 11 sciences.~~

~~23.~~ One of the following Mathematics classes:

- Foundations of Math 11
- Precalculus 11
- Apprenticeship and Workplace Math 11
- The formerly offered Principles of MATH 11, Applications of Mathematics 11, or Essentials of Mathematics 11 or
- MATH 085, or equivalent

~~34.~~ One of the following Grade 11 sciences:

- Biology 11 or Bio 083 (strongly recommended)
- Chemistry 11 or Chem 083
- Earth Sciences 11 or
- Physics 11 or Phys 083
- ~~Agriculture 11 and 12 (a minimum grade of C is required in both Agriculture 11 and Agriculture 12 for admission)~~

5. Applicants must meet the ~~Degree/diploma level~~ Entry-level English language proficiency requirement. For details on how this requirement may be met, see the English language proficiency requirement section of the calendar.

6. The Agriculture Technology department will also consider applicants if they can demonstrate that they have a reasonable chance for success. Applicants will be required to submit a portfolio and/ or be interviewed.

# Livestock Production

## Program outline

### Semester I (Fall)

| Course             | Title                                                            | Credits  |
|--------------------|------------------------------------------------------------------|----------|
| AGRI 142           | Agribusiness Principles                                          |          |
| <b>or</b> BUS 100  | Introduction to Business                                         | 3        |
| AGRI 163           | Pest Biology and Identification                                  | 3        |
| AGRI 237           | Introduction to the Health and Nutrition of Farm Animals         | 3        |
| AGRI 238           | Equine Production and Management                                 | 3        |
| CMNS 125           | Communicating Professionally to Academic and Workplace Audiences | 3        |
| <u>or ENGL 105</u> | <u>Academic Writing</u>                                          | <u>3</u> |

### In even-numbered years:

|          |                                                     |   |
|----------|-----------------------------------------------------|---|
| AGRI 239 | Management and Production of Beef, Sheep, and Goats | 3 |
|----------|-----------------------------------------------------|---|

### In odd-numbered years:

|          |                                                |   |
|----------|------------------------------------------------|---|
| AGRI 256 | Management and Production of Poultry and Swine | 3 |
|----------|------------------------------------------------|---|

# Milker Technician certificate

## Entrance requirements

~~1. Good physical health.~~

~~2. B.C. secondary school graduation or equivalent~~ and

2. One of the following Mathematics classes:

- Foundations of Math 11
- Precalculus 11
- Apprenticeship and Workplace Math 11
- The formerly offered Principles of MATH 11, Applications of Mathematics 11, or Essentials of Mathematics 11 or
- MATH 085, or equivalent

3. One of the following Grade 11 sciences:

- Biology 11 or Bio 083 (strongly recommended)
- Chemistry 11 or Chem 083
- Earth Sciences 11
- Physics 11 or Phys 083

~~4.~~ 4. Applicants must meet the Entry-level English language proficiency requirement. For details on how this requirement may be met, see the **English language proficiency requirement** section of the calendar.

~~2. Reliable transportation and a valid driver's license.~~

~~Permission of the Agriculture Technology department.~~

5 The Agriculture Technology department will also consider applicants if they can demonstrate that they have a reasonable chance for success. Applicants will be required to submit a portfolio and/ or be interviewed.

~~Students must provide their own transportation to and from the training farm and be willing to work flexible hours. Persons most likely to succeed will enjoy working with animals. Class attendance at all sessions is mandatory.~~

## Program requirements

Applicants should be in good physical health, have reliable transportation and a valid driver's license. Students must provide their own transportation to and from the training farm and be willing to work flexible hours. Persons most likely to succeed will enjoy working with animals. Class attendance at all sessions is mandatory.

To fulfill the requirements for the Milker Technician certificate, students must complete all course work, including two dairy farm practica. With instructor's consent, both practica may be completed at the same host farm, if the practica are designed to progressively develop the student's competence in milking and its attendant responsibilities, on a commercial dairy farm.

# Berry Production Essentials certificate

## Entrance requirements

1. \_\_\_\_\_ B.C. secondary school graduation or equivalent, ~~or minimum 19 years of age before first day of class and~~

2. One of the following Mathematics classes:

- Foundations of Math 11
- Precalculus 11
- Apprenticeship and Workplace Math 11
- The formerly offered Principles of MATH 11, Applications of Mathematics 11, or Essentials of Mathematics 11 or
- MATH 085, or equivalent

3. One of the following Grade 11 sciences:

- Biology 11 or Bio 083 (strongly recommended)
- Chemistry 11 or Chem 083
- Earth Sciences 11
- Physics 11 or Phys 083

4. Applicants must meet the Entry-level English language proficiency requirement. For details on how this requirement may be met, see the **English language proficiency requirement** section of the calendar.

~~2.5. Admission to the Agriculture Technology department.~~ The Agriculture Technology department will also consider applicants if they can demonstrate that they have a reasonable chance for success. Applicants will be required to submit a portfolio and/ or be interviewed.

Some courses have prerequisites. Prospective students are encouraged to meet with the Agriculture Technology department before applying to the program.

# Current Agricultural Practices Essentials certificate

## Entrance requirements

1. B.C. secondary school graduation or equivalent; ~~or minimum 19 years of age before first day of class and~~

2. One of the following Mathematics classes:

- Foundations of Math 11
- Precalculus 11
- Apprenticeship and Workplace Math 11
- The formerly offered Principles of MATH 11, Applications of Mathematics 11, or Essentials of Mathematics 11 or
- MATH 085, or equivalent

3. One of the following Grade 11 sciences:

- Biology 11 or Bio 083 (strongly recommended)
- Chemistry 11 or Chem 083
- Earth Sciences 11
- Physics 11 or Phys 083

4. Applicants must meet the Entry-level English language proficiency requirement. For details on how this requirement may be met, see the **English language proficiency requirement** section of the calendar.

5. A one-year certificate, or a diploma or degree in Agriculture or Horticulture from a recognized post-secondary institution. The Agriculture Technology department will also consider applicants if they can demonstrate that they have a reasonable chance for success. Applicants will be required to submit a portfolio and/ or be interviewed. Some courses have prerequisites.

Prospective students are encouraged to meet with the Agriculture Technology department before commencing the program.

# Field Vegetable Production Essentials certificate

## Entrance requirements

1. B.C. secondary school graduation or equivalent; ~~or minimum 19 years of age before first day of class and~~

2. One of the following Mathematics classes:

- Foundations of Math 11
- Precalculus 11
- Apprenticeship and Workplace Math 11
- The formerly offered Principles of MATH 11, Applications of Mathematics 11, or Essentials of Mathematics 11 or
- MATH 085, or equivalent

3. One of the following Grade 11 sciences:

- Biology 11 or Bio 083 (strongly recommended)
- Chemistry 11 or Chem 083
- Earth Sciences 11
- Physics 11 or Phys 083

4. Applicants must meet the Entry-level English language proficiency requirement. For details on how this requirement may be met, see the **English language proficiency requirement** section of the calendar.

5. ~~Admission to the Agriculture Technology department.~~ The Agriculture Technology department will also consider applicants if they can demonstrate that they have a reasonable chance for success. Applicants will be required to submit a portfolio and/ or be interviewed.

Some courses have prerequisites. Prospective students are encouraged to meet with the Agriculture Technology department before applying to the program.

# Integrated Pest Management Essentials certificate

## Entrance requirements

1. B.C. secondary school graduation or equivalent, ~~or minimum 19 years of age before first day of class and~~

2. One of the following Mathematics classes:

- Foundations of Math 11
- Precalculus 11
- Apprenticeship and Workplace Math 11
- The formerly offered Principles of MATH 11, Applications of Mathematics 11, or Essentials of Mathematics 11 or
- MATH 085, or equivalent

3. One of the following Grade 11 sciences:

- Biology 11 or Bio 083 (strongly recommended)
- Chemistry 11 or Chem 083
- Earth Sciences 11
- Physics 11 or Phys 083

4. Applicants must meet the Entry-level English language proficiency requirement. For details on how this requirement may be met, see the **English language proficiency requirement** section of the calendar.

5. ~~Admission to the Agriculture Technology department.~~ The Agriculture Technology department will also consider applicants if they can demonstrate that they have a reasonable chance for success. Applicants will be required to submit a portfolio and/ or be interviewed. Some courses have prerequisites. Prospective students are encouraged to meet with the Agriculture Technology department before applying to the program.

**Memo for Program Changes**

To: Dr. Greg Schlitt, Acting Dean of Science  
 Dr. Allan Arndt, Chair, Faculty of Science Curriculum Committee  
 Caroline Majeau, Committee Assistant

From: Bachelor of Agriculture Science degree Program Working Group

Date: August 25, 2017

**Subject: Program change (Bachelor of Agriculture Science degree, Horticulture major)**

1. Summary of changes (select all the apply):

- ☐ Program revision that requires new resources
- ☒ Addition of new course options or deletion or substitution of a required course
- ☐ Change to the majority of courses in an approved program
- ☐ Change to the duration, philosophy, or direction of a program
- ☐ Addition of a new field of specialization, such as a concentration
- ☒ Change in requirements for admission
- ☐ Change in requirements for residency or continuance
- ☐ Change in admission quotas
- ☐ Change which triggers an external review
- ☐ Deletion of a program not included in the Program Discontinuance policy
- ☒ Other – Please specify: Addition of Cooperative Education option to the degree.

2. Rationale for change(s):

The Bachelor of Agricultural Sciences in its present form is not eligible for financial aid. The program has to be structured in such a way that a student can take a minimum of 15 credits per semester and 30 credits per year for a total of 4 years to be eligible for financial aid. The requirement for 4 and 5 credit biology, stats and chemistry courses results in the first and second years having more credits than the 4<sup>th</sup> year. In order for the program to qualify for financial aid, 7 credits have been added to the degree. To reach the 127 credits required for the program the student is allowed to take any university course 100 level or above. Students who choose the cooperative education option will be able to use work term credits towards the elective credits and the Practicum 1 (AGRI 192) course.

The cooperative education option has been added to the program as it is recognized that job related experience is very important to the success of graduates from this program. Allowing students the opportunity to complete cooperative education semesters alongside the courses requirements will increase employability thru expansion of discipline knowledge, technical and research skills and experience in the job sector. There is presently cooperative education job demand for students with agriculture knowledge so the addition of cooperative education to the program will aid in meeting this demand.

The addition of agrology electives and communication requirement courses will give the student more flexibility in choosing courses to meet the program requirements.

The capstone requirement for the degree has been simplified to require AGRI 390 only with an option for AGRI 490 if the student wants to complete an advanced research topic course. Students will be approved and supervised by agriculture faculty in the development of a directed studies that is best suited to the degree outcomes.

Admissions to the Agricultural degree has been changed to include a university entrance option which was missing from the program and to align the direct entry and transition option from agriculture certificates or diploma option. In the existing admissions requirement, direct entry students had to meet a grade 12 math, and chemistry and biology prerequisite requirements whereas for the transition option from the Agriculture diploma students had only to meet admissions to the certificate programs with a note about prerequisites for biology and chemistry courses. Admission requirements are now more clearly stated for all admission options and align with meeting the prerequisites to course requirements in the degree. Students no longer have to meet a math 12 level for the high school admissions option which was not necessary for success in the degree requirements. This is likely to increase the applicant pool to the degree.

3. If program outcomes are new or substantially changed, explain how they align with the Institutional Learning Outcomes:

No change to program learning outcomes

4. What consideration has been given to indigenizing the curriculum? Indigenization is encouraged at the program level thru breath/elective requirements where students can choose from courses where indigenization is appropriate to the course content and discipline.
5. Will additional resources be required? If so, how will these costs be covered? No additional resources are required
6. How will students be impacted? (Indicate the projected number of students impacted.) Is the change expected to increase/decrease enrolment in the program?

Students will be required to complete an additional 7 credits for the degree. To offset this change the number of electives in the program have been increased from 3 to 12 credits. Students may use any 100 level course of higher to meet the electives including credits from the agriculture certificates that would not have counted prior to the change and cooperative education credits.

7. Does the number of required core or elective credits from the program-specific discipline change? If so, will this change the total number of courses to be offered within the discipline? No additional courses are required to meet core or elective credits with the program specific discipline. The increase in credits will be elective credits in any discipline.
8. Identify any available resources that will be used to accommodate the program changes. (Eg. seats in existing classes, conversion of sections, timetabling changes, deletion of courses, etc.). None required.
9. Is the number of required or elective courses from other disciplines in the program changing? If so, what is the estimated impact to enrolments in these courses? Provide a memo from the respective dean(s) of the impacted faculty to confirm if budgetary implications have been considered and

addressed. Elective credits will increase and can be taken from any faculty including cooperative education.

10. Provide a memo from the program's dean to confirm that budgetary implications of the proposed changes have been considered and will be addressed within the faculty budget.

**CWC comments and responses:**

- The word "optional" before AGRI 490 may be confusing. Is the intention to require AGRI 390, or to allow students to take either AGRI 390 or 490? If not, suggest removing AGRI 490 from this section and including it elsewhere as a possible course of interest. Also suggest changing the "Independent Studies" section to "Capstone".

*Response #1:*

*Independent studies vs. capstone was debated at our last meeting (August) and we believe that the essence of the course is the same regardless of whether it is called a capstone or independent study. The group was evenly divided as to the name of the course but all believe it is an opportunity to increase a specialized area of knowledge under the direction of an expert in that field. It is meant to give the student all the necessary research and investigative tools that will encapsulate the 4 years of learning throughout their degree. Speaking to several students it was a confusing and foreign thing calling it a capstone as many are not familiar with that as a term. I too am not familiar with that term and had to have it explained to me. So the committee decided that independent studies was a better name.*

*This issue is just semantics if the UEC screening committee wants to call it capstone then call it that. I believe that the essence of the course is the same no matter what the course is called.*

*Response #2:*

*Both AGRI 390 and AGRI 490 should be available as independent studies courses. There will be implications to the Masters of Integrated Science and Technology that is in preparation right now. Optional is good as there are many more options for students and so there should be, depending on where their career is leading them to.*

- Entrance requirements include the "prerequisites for CMNS 125", but since ENGL 105 will now be an alternative to this course, it may be better to replace this with "Degree/diploma level English language proficiency requirement. For details on how this requirement may be met, see the English language proficiency requirement section of the calendar."

*We can change the prerequisites to CMNS 125 to the suggested language. As long as there is a link for students to follow in the calendar this will work fine.*

- Raising the required number of credits may not increase the applicant pool as desired. Were other potential alternatives explored? (For example, is there a better way to distribute the credit value of the courses?)

*Response #1:*

*This was not intended to try to recruit more students. This was to address the issue that the degree was heavily loaded to lower level courses and was not eligible for financial aid requirements. The courses were added/realigned to give more weight at the upper level courses. There was an issue that there were too little credits available at 4th year to make the program eligible for financial aid although the average of the course over the 4 years was sufficient. We did try to rearrange credit values so that it accounted for a more balanced case for all keeping in mind that credits added will add to the cost of the degree. The plan set forth was the best case we could arrive at.*

*If courses are redistributed I can see the potential for many prerequisites being overlooked and misidentified. In that case the degree would have to undergo a major retooling.*

*Response #2:*

*Yes, other options for credit distribution were explored. However, the agriculture diploma and certificate are overloaded with credit as they are standalone as well as integrated in this degree. We have constructed these course loads with industry and we see a perfect fit. We do not want to reopen that Pandora's box if possible. Implications on the diploma would be devastating to our agriculture programming and might make it unsustainable, a route we all agreed on not taking. The only moves we have left is to dispense with communications etc. which from an academic standpoint is untenable.*



---

**MEMORANDUM**

---

**TO:** UEC, SENATE

**FROM:** Greg Schlitt, Dean of Science (Acting)

**DATE:** 13/09/17

**RE:** Proposed changes to Bachelor of Agricultural Science

---

I have reviewed the proposed changes to the Bachelor of Agricultural Science. There are no budgetary implications for the Faculty of Science.

## Bachelor of Agricultural Science degree, Horticulture major

The Bachelor of Agricultural Science (BAS), Horticulture major emphasizes the academic study of the natural sciences in combination with an applied agriculture curriculum. The program will provide students with an understanding of science and the practical nature of large scale horticulture production. Breadth of knowledge will be enhanced by communication, business, and general elective courses related to agriculture in society, in addition to science and agriculture courses.

The BAS requires 127 credits. To receive a Bachelor of Agricultural Science degree, students must complete an industry-based practicum (AGRI 192) and an applied research project (via a Capstone course) which provides graduates with practical experience with which to enter the workforce and face the challenges associated with the horticulture industry.

### Entrance requirements

Students may enter directly from High school, from another post-secondary program or transition into the program from one of the agriculture certificates or diploma, the Agriculture Technology diploma, Horticulture Crop Production and Protection option.

### Option 1: High school (for students with high school graduation only)

1. B.C. secondary school graduation or equivalent.
- ~~2. One of Chemistry 12, CHEM 093, or CHEM 110 with a C or better.~~
- ~~2. One of Foundations of Mathematics 12, Precalculus 12, Principles of Mathematics 12, Applications of Mathematics 12, MATH 094/095, MATH 096, or MATH 110.~~
- ~~3. 2. Prerequisites for Chemistry 110 (One of the following: (Foundations of Mathematics 11, Pre-calculus 11, Principles of Mathematics 11, Foundations of Mathematics 12, Pre-calculus 12, Principles of Mathematics 12, or any UFV MATH course numbered 085 or higher) and Chemistry 11 or Chem 083)~~
3. Prerequisites for Biol 111 ~~One of Biology 11 or BIO 083 with a C+ or better.~~
4. Prerequisites for STAT 104.

5. Degree/diploma level English language proficiency requirement. For details on how this requirement may be met, see the **English language proficiency requirement** section of the calendar.~~Prerequisites for CMNS 125.~~

## **Option 2: Students transitioning from Agriculture Technology one of the Agriculture certificates or diploma**

Students transitioning from ~~the one of the agriculture certificates or Agriculture Technology diploma, Horticulture Crop Production and Protection option (or equivalent)~~ must satisfy the Agriculture Technology programs' **entrance requirements**, as well as meeting the ~~Students may also need to complete the~~ prerequisites for **BIO 111** and ~~either CHEM 110 or CHEM 113 and~~ **STAT 104**.

## **Option 3: University entrance (for students who have attended some post-secondary school)**

1. Completion of a minimum of nine credits at the 100 level and above, transferable to a degree program, with a GPA of 2.0 or better on all credits attempted
- 1.
2. Prerequisites for ~~Chem~~ CHEM 110
3. Prerequisites for ~~Bio~~ BIO 111.
4. Prerequisites for STAT 104.
5. Prerequisites for CMNS 125.

Students who do not meet these requirements might consider **Qualifying Studies** and meet with an academic advisor to plan for the degree and/or a meeting with a UFV academic advisor

.

## **When to apply**

Applications are accepted on a continuous basis throughout the year. However, Agriculture Technology diploma students are encouraged to apply to the degree prior to the end of the third semester of the diploma. Applications will be reviewed based on work complete to date.

Qualified applicants are considered for the next intake in which there is space. See **Continuous application process** for more information.

## How to apply

1. Apply online at [ufv.ca/admissions/admissions/apply](http://ufv.ca/admissions/admissions/apply).
2. Applicants will be advised of an admission decision and, if accepted, will be provided with registration information. A deposit is required prior to registration (see the **Fees and Other Costs** section). This money will be applied toward tuition fees. Final payment of all course fees is due the end of the second week of classes.

## Basis for admission decision

Applicants who meet the entrance requirements will be admitted in order of their application date. This date is set when an application, all required documentation, and the application fee have been submitted.

## Fees and additional costs

See the **Fees and Other Costs** section.

## Co-operative Education option

The Co-operative Education option provides Agriculture students with the opportunity to acquire paid, career-related work experience in conjunction with their studies in the Bachelor of Agricultural Science degree.

See the Co-operative Education section for more details.

## Program duration and total number of credits

With appropriate planning, the Bachelor of Agricultural Science requirements (12~~7~~<sup>9</sup> credits) can be completed in four years of full-time study. Because upper-level courses are offered on a limited basis, students should seek the help of an Academic Advisor to plan their coursework in advance, in order to complete their degree in a timely manner. The choice of which courses are to be offered each year will be made with reference to the needs of students who have been admitted in the program or have formally declared their intention to complete the degree.

## Location

The degree can be largely completed on the UFV Canada Education Park campus in Chilliwack, although some courses, especially at the upper level, may be offered at the Abbotsford campus only. Practicum may be on off-campus sites.

## Program outline

To receive a Bachelor of Agricultural Science, students must complete 127~~9~~ credits to include the general requirements (Business, Statistics, and Communication; Lower-level Science; and Agriculture in Society) and the Horticulture major requirements. At least 45 credits must be at the upper level.

A minimum CGPA of 2.0 in the BAS program, a minimum CGPA of 2.0 in your major, and a minimum CGPA of 2.0 in all upper-level credits is required for graduation.

## BAS general requirements

### Business, Statistics, and Communication (13 credits)

| Course      | Title                        | Credits |
|-------------|------------------------------|---------|
| BUS 100     | Introduction to Business     |         |
| or AGRI 142 | Agribusiness Principles      |         |
| or ECON 100 | Principles of Microeconomics |         |

|                                                |                                                                                                           |           |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------|
| <b>or</b> ECON 101                             | Principles of Macroeconomics                                                                              | 3         |
| STAT 104                                       | Introductory Statistics                                                                                   |           |
| <b>or</b> STAT 106                             | Statistics I                                                                                              | 4         |
| CMNS 125<br><br><u>or ENG 105</u>              | Communicating Professionally to Academic and Workplace Audiences <u>or</u><br><br><u>Academic Writing</u> | 3         |
| GEOG 257/CMNS 257 <u>or</u><br><u>CMNS 251</u> | Environment: Science and Communications <u>or</u><br><u>Professional Report Writing</u>                   | <u>3</u>  |
| <b>or</b> CMNS 325                             | Writing for the Sciences and Technologies                                                                 | 3         |
| <u><b>Electives</b></u>                        | <u>12 university-level credits, 100 level or above</u><br><u>university courses</u>                       | <u>12</u> |

Lower-level Science (22-22 credits)

| Course                     | Title                        | Credits |
|----------------------------|------------------------------|---------|
| CHEM 113                   | Principles of Chemistry I    |         |
| <b>or</b> CHEM 110         | Introductory Chemistry       | 4-5     |
| BIO 111                    | Introductory Biology I       | 5       |
| BIO 201                    | Cell Biochemistry/Metabolism | 4       |
| BIO 210                    | Introduction to Ecology      |         |
| <b>or</b> BIO 219/GEOG 219 | Biogeography                 | 4       |
| BIO 220                    | Genetics                     | 4       |

Note: ~~Students may have to take BIO 112 as a prerequisite for BIO 210, BIO 330, BIO 410, BIO 430 or GEOG 315.~~ Students-Students wishing to take GEOG 353 as an Agrology elective will need GEOG 253.

Agriculture in Society (8 credits)

| Course                                                                | Title                                                      | Credits |
|-----------------------------------------------------------------------|------------------------------------------------------------|---------|
| <b>Two or three of the following, for a minimum of eight credits:</b> |                                                            |         |
| GEOG 311                                                              | Global Resources and the Environment                       | 4       |
| GEOG 312                                                              | Political Ecology                                          | 4       |
| GEOG 313/SOC 313                                                      | Agriculture and Rural Life                                 | 4       |
| GEOG 314                                                              | Geography of Food                                          | 4       |
| GEOG 340/GDS 340                                                      | Geographies of Poverty and Development                     | 4       |
| GEOG 360                                                              | Introduction to Regional and Community Planning and Policy | 4       |

|                     |                                                                              |   |
|---------------------|------------------------------------------------------------------------------|---|
| GEOG 364            | International Planning and Development Policy:<br>Adapting to Climate Change | 4 |
| SOC 260/ANTH<br>260 | Food for Thought: Food, Culture, and Society                                 | 3 |
| SOC 360/ANTH<br>360 | Eating and Thinking: Food, Identity, and Power in<br>Global Societies        | 4 |
| PHIL 318            | Environmental Ethics                                                         | 3 |
| BIO 477/IPK<br>477  | Traditional Ecological Knowledges                                            | 4 |

### Horticulture major requirements

#### Horticulture Technology (33 credits)

| Course   | Title                                       | Credits |
|----------|---------------------------------------------|---------|
| AGRI 123 | Horticulture Skills and Techniques for Fall | 3       |

|          |                                                            |     |
|----------|------------------------------------------------------------|-----|
| AGRI 124 | Introduction to Horticulture                               | 3   |
| AGRI 129 | Horticulture Skills and Techniques for Winter              | 3   |
| AGRI 163 | Pest Biology and Identification                            | 3   |
| AGRI 183 | Farm and Equipment Safety                                  | 3   |
| AGRI 192 | Practicum I ( <u>or Co-operative Education Practicum</u> ) | 3-6 |
| AGRI 203 | Fundamentals of Pest Management                            | 3   |
| AGRI 204 | Introduction to Soils and Soil Fertility                   | 3   |
| AGRI 212 | Introduction to On-Farm Food Safety, Quality and Security  | 3   |
| AGRI 220 | Plants in the Landscape                                    | 3   |

|          |                            |   |
|----------|----------------------------|---|
| AGRI 272 | Agriculture Seminar Series | 3 |
|----------|----------------------------|---|

**Agrology: Agriculture (21 credits)**

| <b>Course</b> | <b>Title</b>                                           | <b>Credits</b> |
|---------------|--------------------------------------------------------|----------------|
| AGRI 306      | Field Techniques in Pest Management (see Note)         | 3              |
| AGRI 311      | Sustainable Soil Management                            | 3              |
| AGRI 321      | Vegetable Crop Production: Science & Practice          | 3              |
| AGRI 323      | Fruit Crop Production: Science & Practice              | 3              |
| AGRI 324      | Greenhouse Production: Science & Practice              | 3              |
| AGRI 327      | Nursery Production and Propagation: Science & Practice | 3              |

|          |                                                          |   |
|----------|----------------------------------------------------------|---|
| AGRI 371 | Sustainable Holistic Agriculture: Planning and Practices | 3 |
|----------|----------------------------------------------------------|---|

Note: Students who have taken AGRI 206 will be considered to have satisfied the AGRI 306 requirement. Students with AGRI 206 cannot take AGRI 306 for further credit and must ensure they satisfy the minimum of 45 upper-level credits required for the BAS degree through their selection of elective courses.

### Agrology: Electives (14-20 credits)

| Course                                | Title                                                                        | Credits                  |
|---------------------------------------|------------------------------------------------------------------------------|--------------------------|
| <b>Four or five of the following:</b> |                                                                              |                          |
| <a href="#"><u>AGRI 328</u></a>       | <a href="#"><u>Forage crop production: science and practice</u></a>          | <a href="#"><u>3</u></a> |
| <a href="#"><u>AGRI 331</u></a>       | <a href="#"><u>Dairy production and management: science and practice</u></a> | <a href="#"><u>3</u></a> |
| <a href="#"><u>BIO 307</u></a>        | <a href="#"><u>Anatomy and diversity of plants</u></a>                       | <a href="#"><u>4</u></a> |
| BIO 308                               | Plant Physiology                                                             | 4                        |

|                              |                                               |                   |
|------------------------------|-----------------------------------------------|-------------------|
| BIO 309                      | Microbiology I                                | 4                 |
| <a href="#">BIO 310</a>      | <a href="#">Conservation Biology</a>          | <a href="#">3</a> |
| <a href="#">BIO/GEOG 319</a> | <a href="#">Swamps and Bogs</a>               | <a href="#">4</a> |
| BIO 330                      | Plants and Animals of British Columbia        | 4                 |
| <a href="#">BIO/GEOG 335</a> | <a href="#">Methods in Freshwater Ecology</a> | <a href="#">4</a> |
| BIO 360                      | Insect Biology                                | 4                 |
| <a href="#">BIO 370</a>      | <a href="#">Introduction to Mycology</a>      | <a href="#">4</a> |
| BIO 407                      | Applied Biotechnology                         | 3                 |
| BIO 410                      | Plant Ecology                                 | 4                 |

|                              |                                |                   |
|------------------------------|--------------------------------|-------------------|
| <a href="#">BIO/GEOG 419</a> | <a href="#">Paleoecology</a>   | <a href="#">4</a> |
| BIO 426                      | Environmental Microbiology     | 4                 |
| BIO 430                      | Forest Ecology                 | 3                 |
| GEOG 303                     | Environmental Hydrology        | 4                 |
| GEOG 308                     | Climate Change and Variability | 4                 |
| GEOG 315                     | Soilscapes                     | 4                 |
| GEOG 318                     | Water Resources Management     | 4                 |
| GEOG 353                     | GIS Applications               | 4                 |

[Independent Studies](#) (~~33~~5-credits)

| Course                                                                                          | Title                                                                            | Credits               |
|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-----------------------|
| <b>One of the following (see Note):</b>                                                         |                                                                                  |                       |
| AGRI 390                                                                                        | Directed Studies in Agriculture                                                  | 3                     |
| <u>Optional</u> AGRI 490                                                                        | <del>Directed Studies in Agriculture</del> <u>Advanced Topics in Agriculture</u> | <del>3</del> <u>3</u> |
| <del>BIO 421</del>                                                                              | <del>Special Topics in Applied Biology</del>                                     | <del>4</del>          |
| GEOG 452                                                                                        | <del>Advanced Field Methods and Techniques</del>                                 | 4                     |
| <del>GEOG 470</del>                                                                             | <del>Advanced Field Studies in Geography</del>                                   | 5                     |
| GEOG 484                                                                                        | Directed Studies                                                                 | 4                     |
| Note: Specific topics to be approved by the Bachelor of Agricultural Science Program Committee. |                                                                                  |                       |

## Residency

Of the 1270 credits, 60 credits must be completed at UFV. At least 50% of the upper-level credits in the Horticulture major, (including the capstone course,) must be completed at UFV.

## Graduation

It is the student's responsibility to ensure all program requirements are met. This should be done by regular consultation with a UFV [Academic](#) Advisor.

All degree candidates must be approved by UFV Advising. Students must apply for graduation by completing the Graduation Request form available at [ufv.ca/admissions](http://ufv.ca/admissions), or from the Office of the Registrar. The final deadline for students who wish to attend the June Convocation ceremony is April 1 of each year, with all program requirements completed by April 30 of each year.

## Course duplication

Duplication refers to taking a course more than once.

Under university policy, students may not register for a course more than twice without permission of the department head or designate for the discipline. Where a course has been repeated, only the higher grade is counted in the GPA calculation. See UFV's [Course Repeat policy \(86\)](#).

No more than five upper-level course duplications will be permitted on courses which apply to the BAS. Students with more than five upper-level course duplications will be required to withdraw from the program.

## Course listings

For complete details on courses see the [course descriptions](#) section.

**Memo for Course Changes**

To: Allan Arndt, FSCC Chair

From: Ian Affleck, Department Head, Math & Stats

Date: August 21, 2017

**Subject: Proposal for revision of MATH 105**

1. Summary of changes (select all that apply):

- ☐ Six-year review
- ☐ Number and/or course code
- ☒ Credits and/or total hours
- ☒ Title
- ☒ Calendar description
- ☒ Prerequisites and/or co-requisites
- ☐ Frequency of course offering
- ☐ Learning outcomes
- ☒ Delivery methods and/or texts and resource materials
- ☐ PLAR options, grading system, and/or evaluation methods
- ☐ Discontinuation of course
- ☐ Other – Please specify:

2. Rationale for change:

After reviewing data provided by the UFV Office of Institutional Research regarding success rates in first-year Math and Stats courses, the Department of Mathematics and Statistics has identified several instances where certain current prerequisite standards are not adequately preparing students for UFV courses. In particular, we noticed that students entering MATH 105 with a grade less than C in Foundations of Math 12 are at high risk of not succeeding. We propose to change the prerequisites of MATH 105 to introduce a grade of C as the minimum prerequisite standard in Foundations of Math 12.

We propose to replace the MATH 105 prerequisite option of “a C or better in both Foundations of Math 11 and Precalculus 11” with “a C or better in Precalculus 11”, lowering the minimum prerequisite standard in Precalculus 11 from a C+ to a C. (Few students in Grade 11 are opting to take courses in both the Precalculus stream and the Foundations stream.)

We propose to introduce two further options for students to enter demonstrate preparedness for MATH 105. One option (any UFV MATH course numbered 092 or higher) is to allow students into the course who perhaps don't have a BC high school background, but have demonstrated preparedness for MATH 105 by taking or transferring in a mathematics course that is at a higher level than those already listed. The other option (a score of 17/25 or better on Part A of the MSAT) gives students without a listed prerequisite course a way to challenge entry into MATH 105, perhaps by studying independently.

Housekeeping edits and updates:

- The calendar description has been shortened and a “Course Short Title” has been added, to conform with UFV standards for Official Course Outlines.
- Total hours has been corrected to 60 from 75.
- The typical textbook has been updated (edition only).
- Reference to web page “ufv.ca/math/challenge.htm” (non-existent) has been removed from PLAR section. (PLAR assessment is now available via course challenge, in accordance with UFV course challenge policy.)
- One minor clarification was made in the Course Content section.

3. If there are substantial changes to the learning outcomes, explain how they align with the learning outcomes of the program(s):
4. Is this course required by any program beyond the discipline? If so, how will this change affect that program or programs?

MATH 105 is required for entry into UFV’s Elementary Teacher Education Program. We anticipate that with better preparation for MATH 105, students in that course will be able to better enjoy and appreciate the mathematical concepts in that course. Introducing MATH 092 and the MSAT placement test as alternate avenues into the course will give students greater flexibility in how they earn the prerequisite.

There could be a small negative effect on enrolments, but we expect this effect to be minimal. Of the 1111 student enrollments in MATH 105 between Fall 2010 and Fall 2016, only 4 had Foundations of Math 11 with a grade less than B, and only 7 had Foundations of Math 12 with a grade less than B.

5. Which program areas have been consulted about the change(s)?

We have consulted with the Department of Teacher Education.

6. What consideration has been given to indigenizing the curriculum?

The changes proposed here are part of a broad analysis and revision of prerequisites for entry-level courses in Mathematics and Statistics. Proposed changes to the prerequisites for each of these courses are intended (1) to ensure that students who enter the course are adequately prepared, and (2) to provide alternate pathways to qualify for entry into the course, such as recently introduced upgrading courses (MATH 092 and/or MATH 093) and assessment testing (MSAT). The changes will help ensure that students of a variety of educational and social backgrounds are guided towards the university-level mathematics or statistics course that ensures the greatest chance of success in their desired program of study.

7. If this course is not eligible for PLAR, explain why:
8. If any of the following items on the official course outline have changed, explain how the change will affect the budget for your area or any other area:
  - a. Credit value
  - b. Class size limit

- c. Frequency of offering
- d. Resources required (labs, equipment)

9. Are field trips required for this course? (Field trip requirements must be announced in the timetable.) How are the trips funded?

No field trips are required.

10. Estimate of the typical costs for this course, including textbooks and other materials:

The changes proposed do not affect typical costs for this course, which are roughly \$150 (textbook with online resources access package).



ORIGINAL COURSE IMPLEMENTATION DATE: March 1992  
 REVISED COURSE IMPLEMENTATION DATE: September 2018  
 COURSE TO BE REVIEWED: (six years after UEC approval) January 2020  
 Course outline form version: 09/15/14

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

**Note: The University reserves the right to amend course outlines as needed without notice.**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|------------------------------|--|------------------|--|------------------------|--|--------------------------------------------|--|----------------------------|--|----------------------|--|--------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Course Code and Number:</b> MATH 105                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           | <b>Number of Credits:</b> 4 <a href="#">Course credit policy (105)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Course Full Title:</b> Math for the Elementary School Teacher                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Course Short Title (if title exceeds 30 characters):</b> Math for Elementary Teachers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Faculty:</b> Faculty of Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           | <b>Department (or program if no department):</b> Mathematics and Statistics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Calendar Description:</b><br>Provides direct experiences with elementary school mathematics, allowing students to explore their reasoning strategies and gain greater understanding and confidence in their mathematical abilities. Topics include problem solving strategies, sets, numeration systems, properties of real numbers, number theory, and geometry.<br><br>Note: MATH 105 is a mathematics course aimed at developing mathematical ability and is not a course in the methods of teaching.                                                                                                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Prerequisites (or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           | One of the following: (C or better in one of Principles of Mathematics 11 or MATH 085) or (C or better in both Foundations of Mathematics 11 and Pre-calculus 11) or (B or better in one of Foundations of Mathematics 11 or Pre-calculus 11) or (C+ or better in Applications of Math 11) or (one of Foundations of Mathematics 12 or Pre-calculus 12 or MATH 096; or both MATH 094 and MATH 095.)<br><br>Note: As of January 2019, prerequisites will change to one of the following: (C or better in one of Principles of Mathematics 11, Pre-calculus 11, Foundations of Mathematics 12, or MATH 085) or (C+ or better in Applications of Mathematics 12) or (B or better in Foundations of Mathematics 11) or (Pre-calculus 12) or (any UFV MATH course numbered 092 or higher) or (a score of 17/25 or better on Part A of the MSAT). |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           | NONE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Pre/corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           | NONE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Equivalent Courses (cannot be taken for additional credit)</b><br>Former course code/number:<br>Cross-listed with:<br>Equivalent course(s):<br><i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>                                                                                                                                                                                                                                                                                                                                        |           | <b>Transfer Credit</b><br>Transfer credit already exists: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br><br>Transfer credit requested (OREg to submit to BCCAT):<br><input type="checkbox"/> Yes <input type="checkbox"/> No (if yes, fill in transfer credit form)<br><br>Resubmit revised outline for articulation: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Total Hours: 60</b><br><b>Typical structure of instructional hours:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Lecture hours</td> <td style="text-align: right;">60</td> </tr> <tr> <td>Seminars/tutorials/workshops</td> <td></td> </tr> <tr> <td>Laboratory hours</td> <td></td> </tr> <tr> <td>Field experience hours</td> <td></td> </tr> <tr> <td>Experiential (practicum, internship, etc.)</td> <td></td> </tr> <tr> <td>Online learning activities</td> <td></td> </tr> <tr> <td>Other contact hours:</td> <td></td> </tr> <tr> <td style="text-align: right;"><b>Total</b></td> <td style="text-align: right;"><b>60</b></td> </tr> </table> |           | Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 60 | Seminars/tutorials/workshops |  | Laboratory hours |  | Field experience hours |  | Experiential (practicum, internship, etc.) |  | Online learning activities |  | Other contact hours: |  | <b>Total</b> | <b>60</b> | <b>Special Topics</b><br>Will the course be offered with different topics?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br><br>If yes, different lettered courses may be taken for credit:<br><input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit<br><br><i>Note: The specific topic will be recorded when offered.</i> |  |
| Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 60        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Seminars/tutorials/workshops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Laboratory hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Field experience hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Experiential (practicum, internship, etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Online learning activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Other contact hours:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>60</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           | <b>Maximum enrolment (for information only):</b> 36<br><b>Expected frequency of course offerings (every semester, annually, every other year, etc.):</b> Fall & Winter semesters                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Department / Program Head or Director:</b> Ian Affleck                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           | <b>Date approved:</b> September 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Faculty Council approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Campus-Wide Consultation (CWC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           | <b>Date of posting:</b> October 13, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Dean/Associate VP:</b> Lucy Lee                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Undergraduate Education Committee (UEC) approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           | <b>Date of meeting:</b> October 27, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |

**Learning Outcomes**

Upon successful completion of this course, students will be able to:

1. Perform the necessary computations in order to demonstrate a conceptual understanding of the basic laws of arithmetic and the properties of geometry.
2. Use appropriate problem-solving strategies in order to structure clear and concise solutions to problems related to the elementary school curriculum.
3. Evaluate mathematical materials related to the elementary school curriculum

**Prior Learning Assessment and Recognition (PLAR)**

☒ Yes      ☐ No, PLAR cannot be awarded for this course because

**Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)**

Lectures are balanced with problem sessions and group activities. Evaluation will include tests, quizzes, assignments, and a three-hour comprehensive exam.

**Grading system:** Letter Grades: ☒ Credit/No Credit: ☐ Labs to be scheduled independent of lecture hours: Yes ☐ No ☐

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Typical Text(s) and Resource Materials**

The text is chosen by a departmental curriculum committee.

|    | Author (surname, initials) | Title (article, book, journal, etc.)                          | Current ed.              | Publisher | Year |
|----|----------------------------|---------------------------------------------------------------|--------------------------|-----------|------|
| 1. | Musser, Burger, Peterson.  | Mathematics for Elementary Teachers, 10 <sup>th</sup> edition | <input type="checkbox"/> | Wiley     | 2013 |
| 2. |                            |                                                               | <input type="checkbox"/> |           |      |
| 3. |                            |                                                               | <input type="checkbox"/> |           |      |
| 4. |                            |                                                               | <input type="checkbox"/> |           |      |
| 5. |                            |                                                               | <input type="checkbox"/> |           |      |

**Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)**

Compass and protractor.

**Typical Evaluation Methods and Weighting**

|                |             |              |     |                   |   |            |   |
|----------------|-------------|--------------|-----|-------------------|---|------------|---|
| Final exam:    | 40%         | Assignments: | 15% | Midterm exam:     | % | Practicum: | % |
| Quizzes/tests: | 35%         | Lab work:    | %   | Field experience: | % | Shop work: | % |
| Other:         | Project: 10 | Other:       | %   | Other:            | % | Total:     | % |

**Details (if necessary):**

Students must achieve at least 40% on the final exam to receive credit for this course

**Typical Course Content and Topics**

Patterns and Problem Solving Strategies  
 Sets and Venn Diagrams  
 Whole Number Operations  
 Numeration Systems  
 Algorithms in other Bases  
 Primes, Composites  
 Fractions, Decimals, Ratio and Proportion and Percent  
 Operations with Integers, Rational Numbers and Irrational Numbers  
 Geometric Shapes and Properties  
 Measurement including Perimeter and Area  
 Congruence and Similarity  
 Transformations and Tessellations

**Memo for Course Changes**

To: Allan Arndt, FSCC Chair

From: Ian Affleck, Department Head, Math & Stats

Date: August 21, 2017

**Subject: Proposal for revision of MATH 110**

1. Summary of changes (select all that apply):

- ☐ Six-year review
- ☐ Number and/or course code
- ☒ Credits and/or total hours
- ☐ Title
- ☒ Calendar description
- ☒ Prerequisites and/or co-requisites
- ☐ Frequency of course offering
- ☐ Learning outcomes
- ☒ Delivery methods and/or texts and resource materials
- ☐ PLAR options, grading system, and/or evaluation methods
- ☐ Discontinuation of course
- ☐ Other – Please specify:

2. Rationale for change:

We are adding the recently introduced UUP course pair (MATH 092 plus MATH 093 together) as a prerequisite option for MATH 110. This course pair includes precisely the same material as MATH 096 and precisely the same material as (MATH 094 plus MATH 095), so it will serve just as well as those options do as a prerequisite option for MATH 110.

Housekeeping edits and updates:

- The calendar description has been shortened to conform with UFV standards for Official Course Outlines.
- Total hours has been corrected to 60 from 75 (still all Lecture hours).
- The typical textbook has been updated.
- Reference to web page “ufv.ca/math/challenge.htm” (non-existent) has been removed from PLAR section. (PLAR assessment is effectively available via the MDPT and the MSAT, or via course challenge, in accordance with UFV course challenge policy.)

3. If there are substantial changes to the learning outcomes, explain how they align with the learning outcomes of the program(s):
4. Is this course required by any program beyond the discipline? If so, how will this change affect that program or programs?

MATH 110 is not required in any programs, and is used primarily by students requiring to establish the prerequisite for MATH 111. These changes will provide greater flexibility to students seeking to establish the course prerequisites for MATH 110.

5. Which program areas have been consulted about the change(s)?

None.

6. What consideration has been given to indigenizing the curriculum?

The changes proposed here are part of a broad analysis and revision of prerequisites for entry-level courses in Mathematics and Statistics. Proposed changes to the prerequisites for each of these courses are intended (1) to ensure that students who enter the course are adequately prepared, and (2) to provide alternate pathways to qualify for entry into the course, such as recently introduced upgrading courses (MATH 092 and/or MATH 093) and assessment testing (MSAT). The changes will help ensure that students of a variety of educational and social backgrounds are guided towards the university-level mathematics or statistics course that ensures the greatest chance of success in their desired program of study.

7. If this course is not eligible for PLAR, explain why:

8. If any of the following items on the official course outline have changed, explain how the change will affect the budget for your area or any other area:

- a. Credit value
- b. Class size limit
- c. Frequency of offering
- d. Resources required (labs, equipment)

9. Are field trips required for this course? (Field trip requirements must be announced in the timetable.) How are the trips funded?

No field trips are required.

10. Estimate of the typical costs for this course, including textbooks and other materials:

The changes proposed do not affect typical costs for these courses, which are roughly \$200 (textbook with online resources access package) for MATH 111, and roughly \$200 for MATH 125 (textbook).



ORIGINAL COURSE IMPLEMENTATION DATE: September 1993  
 REVISED COURSE IMPLEMENTATION DATE: September 2018  
 COURSE TO BE REVIEWED: (six years after UEC approval) January 2020  
 Course outline form version: 09/15/14

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

**Note:** The University reserves the right to amend course outlines as needed without notice.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|------------------------------|--|------------------|--|------------------------|--|--------------------------------------------|--|----------------------------|--|----------------------|--|--------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Course Code and Number:</b> MATH 110                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           | <b>Number of Credits:</b> 4 <a href="#">Course credit policy (105)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                        |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Course Full Title:</b> Pre-Calculus Math                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Course Short Title (if title exceeds 30 characters):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Faculty:</b> Faculty of Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           | <b>Department (or program if no department):</b> Mathematics and Statistics                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Calendar Description:</b><br>An opportunity to develop high school mathematics skills in order to progress into first-year calculus. Topics include basic algebraic skills, functions including rational, exponential, logarithmic, trigonometric, and inverse functions, and an introduction to the instantaneous rate of change. Practical applications are emphasized.<br><br>Note: Students with credit for MATH 140 cannot take this course for further credit.                                                                                      |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Prerequisites (or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           | One of the following: (C or better in one of Principles of Mathematics 12 or Pre-calculus 12) or (both MATH 092 and MATH 093) or (both MATH 094 and MATH 095) or (MATH 096) or (C+ or better in Applications of Mathematics 12) or (at least 55% on the MDPT).                                                                                                                                                                                                                                                                |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           | NONE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Pre/corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           | NONE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Equivalent Courses (cannot be taken for additional credit)</b><br>Former course code/number:<br>Cross-listed with:<br>Equivalent course(s): <b>MATH 140</b><br><i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>                                                                                                                                                                                       |           | <b>Transfer Credit</b><br>Transfer credit already exists: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br><br>Transfer credit requested (OREg to submit to BCCAT):<br><input type="checkbox"/> Yes <input type="checkbox"/> No (if yes, fill in transfer credit form)<br><br>Resubmit revised outline for articulation: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>To find out how this course transfers, see <a href="http://bctransferguide.ca">bctransferguide.ca</a> . |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Total Hours: 60</b><br><b>Typical structure of instructional hours:</b> <table border="1"> <tr> <td>Lecture hours</td> <td>60</td> </tr> <tr> <td>Seminars/tutorials/workshops</td> <td></td> </tr> <tr> <td>Laboratory hours</td> <td></td> </tr> <tr> <td>Field experience hours</td> <td></td> </tr> <tr> <td>Experiential (practicum, internship, etc.)</td> <td></td> </tr> <tr> <td>Online learning activities</td> <td></td> </tr> <tr> <td>Other contact hours:</td> <td></td> </tr> <tr> <td><b>Total</b></td> <td><b>60</b></td> </tr> </table> |           | Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 60 | Seminars/tutorials/workshops |  | Laboratory hours |  | Field experience hours |  | Experiential (practicum, internship, etc.) |  | Online learning activities |  | Other contact hours: |  | <b>Total</b> | <b>60</b> | <b>Special Topics</b><br>Will the course be offered with different topics?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br><br>If yes, different lettered courses may be taken for credit:<br><input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit<br><br><i>Note: The specific topic will be recorded when offered.</i> |  |
| Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 60        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Seminars/tutorials/workshops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Laboratory hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Field experience hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Experiential (practicum, internship, etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Online learning activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Other contact hours:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>60</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           | <b>Maximum enrolment (for information only):</b> 36<br><br><b>Expected frequency of course offerings (every semester, annually, every other year, etc.):</b> Fall and Winter                                                                                                                                                                                                                                                                                                                                                  |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Department / Program Head or Director:</b> Ian Affleck                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           | <b>Date approved:</b> September 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Faculty Council approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Campus-Wide Consultation (CWC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           | <b>Date of posting:</b> October 13, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Dean/Associate VP:</b> Lucy Lee                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Undergraduate Education Committee (UEC) approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           | <b>Date of meeting:</b> October 27, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |

**Learning Outcomes**

Upon successful completion of this course, students will be able to:

1. Demonstrate basic algebraic skills, especially those most frequently required in the study of calculus,
2. Demonstrate proficiency with function notation,
3. Use technology to explore mathematical concepts,
4. Explain the graphs and properties of the basic functions used in calculus (power, rational, exponential, logarithmic, trigonometric, inverse functions), and
5. Apply the basic functions to practical situations, translating from English to mathematics and back again.

**Prior Learning Assessment and Recognition (PLAR)**

☒ Yes      ☐ No, PLAR cannot be awarded for this course because

**Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)**

Lectures are interspersed with problem sessions; evaluation includes assignments, midterms, and a three-hour comprehensive final. Graphing calculators will be used throughout.

**Grading system:** Letter Grades: ☒ Credit/No Credit: ☐ Labs to be scheduled independent of lecture hours: Yes ☐ No ☐

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Typical Text(s) and Resource Materials**

The textbook is chosen by a departmental curriculum committee. Recent texts include:

|    | Author (surname, initials) | Title (article, book, journal, etc.) | Current ed.                         | Publisher | Year |
|----|----------------------------|--------------------------------------|-------------------------------------|-----------|------|
| 1. | Ratti and McWaters         | Precalculus Essentials               | <input checked="" type="checkbox"/> | Pearson   | 2014 |
| 2. |                            |                                      | <input type="checkbox"/>            |           |      |
| 3. |                            |                                      | <input type="checkbox"/>            |           |      |
| 4. |                            |                                      | <input type="checkbox"/>            |           |      |
| 5. |                            |                                      | <input type="checkbox"/>            |           |      |

**Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)**

A graphing calculator (without a computer algebraic system) is required.

**Typical Evaluation Methods and Weighting**

|                |     |              |     |                   |   |            |      |
|----------------|-----|--------------|-----|-------------------|---|------------|------|
| Final exam:    | 40% | Assignments: | 10% | Midterm exam:     | % | Practicum: | %    |
| Quizzes/tests: | 50% | Lab work:    | %   | Field experience: | % | Shop work: | %    |
| Other:         | %   | Other:       | %   | Other:            | % | Total:     | 100% |

**Details (if necessary):** Students must achieve at least 40% on the final exam in order to receive credit for this course.

**Typical Course Content and Topics**

1. Review of basic algebra.
2. Algebraic equations and inequalities.
3. Functions and graphs, including mathematical notation and language, and the use of functions to relate a mathematical equation to situations encountered in life.
4. Polynomial and rational functions.
5. Inverse functions: finding them graphically and algebraically, understanding their uses.
6. Exponential and logarithmic functions, including applications such as population growth, radioactive decay, the spread of pollution.
7. Trigonometric functions and their relationship to periodic phenomena such as ocean tides, human physiology.
8. Analytic trigonometry
9. Sequences, series, inductions, as time permits.
10. Introduction to the instantaneous rate of change.

**Memo for Course Changes**

To: Allan Arndt, FSCC Chair

From: Ian Affleck, Department Head, Math & Stats

Date: August 21, 2017

**Subject: Proposal for revision of MATH 111**

1. Summary of changes (select all that apply):

- ☐ Six-year review
- ☐ Number and/or course code
- ☒ Credits and/or total hours
- ☐ Title
- ☒ Calendar description
- ☒ Prerequisites and/or co-requisites
- ☐ Frequency of course offering
- ☐ Learning outcomes
- ☒ Delivery methods and/or texts and resource materials
- ☐ PLAR options, grading system, and/or evaluation methods
- ☐ Discontinuation of course
- ☐ Other – Please specify:

2. Rationale for change:

We are adding the recently introduced UUP course pair (MATH 092 plus MATH 093 together) as a prerequisite option for MATH 111. This course pair includes precisely the same material as MATH 096 and precisely the same material as (MATH 094 plus MATH 095), so it will serve just as well as those options do as a prerequisite option for MATH 111.

Housekeeping edits and updates:

- The calendar description has been shortened to conform with UFV standards for Official Course Outlines.
- Total hours has been corrected to 60 from 75 (still all Lecture hours).
- The list of recent textbooks has been updated.
- Reference to web page “ufv.ca/math/challenge.htm” (non-existent) has been removed from PLAR section. (PLAR assessment is available via course challenge, in accordance with UFV course challenge policy.)

3. If there are substantial changes to the learning outcomes, explain how they align with the learning outcomes of the program(s):
4. Is this course required by any program beyond the discipline? If so, how will this change affect that program or programs?

MATH 111 is required for students in the BSc. We have no reason to anticipate significant changes to this program as a result of this change to the prerequisite options, which simply provide greater flexibility to students seeking to establish the course prerequisites.

5. Which program areas have been consulted about the change(s)?

None.

6. What consideration has been given to indigenizing the curriculum?

The changes proposed here are part of a broad analysis and revision of prerequisites for entry-level courses in Mathematics and Statistics. Proposed changes to the prerequisites for each of these courses are intended (1) to ensure that students who enter the course are adequately prepared, and (2) to provide alternate pathways to qualify for entry into the course, such as recently introduced upgrading courses (MATH 092 and/or MATH 093) and assessment testing (MSAT). The changes will help ensure that students of a variety of educational and social backgrounds are guided towards the university-level mathematics or statistics course that ensures the greatest chance of success in their desired program of study.

7. If this course is not eligible for PLAR, explain why:

8. If any of the following items on the official course outline have changed, explain how the change will affect the budget for your area or any other area:

- a. Credit value
- b. Class size limit
- c. Frequency of offering
- d. Resources required (labs, equipment)

9. Are field trips required for this course? (Field trip requirements must be announced in the timetable.) How are the trips funded?

No field trips are required.

10. Estimate of the typical costs for this course, including textbooks and other materials:

The changes proposed do not affect typical costs for this course, which are roughly \$200 (textbook with online resources access package).



ORIGINAL COURSE IMPLEMENTATION DATE: May 1977  
 REVISED COURSE IMPLEMENTATION DATE: September 2018  
 COURSE TO BE REVIEWED: (six years after UEC approval) January 2020  
 Course outline form version: 09/15/14

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

**Note: The University reserves the right to amend course outlines as needed without notice.**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|------------------------------|--|------------------|--|------------------------|--|--------------------------------------------|--|----------------------------|--|----------------------|--|--------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Course Code and Number:</b> MATH 111                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           | <b>Number of Credits:</b> 4 <a href="#">Course credit policy (105)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Course Full Title:</b> Calculus I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Course Short Title (if title exceeds 30 characters):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Faculty:</b> Faculty of Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           | <b>Department (or program if no department):</b> Mathematics and Statistics                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Calendar Description:</b><br><p>This course covers differential calculus of a function of one variable. Topics include limits, continuity, differentiation of algebraic, trigonometric, inverse trigonometric, exponential and logarithmic functions, curve sketching, optimization, related rate problems, an introduction to antidifferentiation, polar coordinates, and parametric equations.</p> <p>Note: Students with credit for MATH 141 cannot take this course for further credit.</p>                                                                                                                                                                    |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Prerequisites (or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           | One of the following: (B or better in one of Principles of Mathematics 12, Pre-calculus 12, MATH 095, or MATH 096) or (B or better in both MATH 092 and MATH 093) or (C+ or better in MATH 110) or (at least 70% on the MDPT).                                                                                                                                                                                                                                                                                        |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           | NONE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Pre/corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           | NONE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Equivalent Courses (cannot be taken for additional credit)</b><br>Former course code/number:<br>Cross-listed with:<br>Equivalent course(s): <b>MATH 115, MATH 141</b><br><i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>                                                                                                                                                                                                                                                                                      |           | <b>Transfer Credit</b><br>Transfer credit already exists: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Transfer credit requested (OREg to submit to BCCAT):<br><input type="checkbox"/> Yes <input type="checkbox"/> No (if yes, fill in transfer credit form)<br>Resubmit revised outline for articulation: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>To find out how this course transfers, see <a href="http://bctransferguide.ca">bctransferguide.ca</a> . |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Total Hours: 60</b><br><b>Typical structure of instructional hours:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Lecture hours</td><td style="text-align: right;">60</td></tr> <tr><td>Seminars/tutorials/workshops</td><td></td></tr> <tr><td>Laboratory hours</td><td></td></tr> <tr><td>Field experience hours</td><td></td></tr> <tr><td>Experiential (practicum, internship, etc.)</td><td></td></tr> <tr><td>Online learning activities</td><td></td></tr> <tr><td>Other contact hours:</td><td></td></tr> <tr><td style="text-align: right;"><b>Total</b></td><td style="text-align: right;"><b>60</b></td></tr> </table> |           | Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 60 | Seminars/tutorials/workshops |  | Laboratory hours |  | Field experience hours |  | Experiential (practicum, internship, etc.) |  | Online learning activities |  | Other contact hours: |  | <b>Total</b> | <b>60</b> | <b>Special Topics</b><br>Will the course be offered with different topics?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>If yes, different lettered courses may be taken for credit:<br><input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit<br><i>Note: The specific topic will be recorded when offered.</i> |  |
| Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 60        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Seminars/tutorials/workshops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Laboratory hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Field experience hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Experiential (practicum, internship, etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Online learning activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Other contact hours:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>60</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           | <b>Maximum enrolment (for information only):</b> 36<br><b>Expected frequency of course offerings (every semester, annually, every other year, etc.):</b> Fall & Winter                                                                                                                                                                                                                                                                                                                                                |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Department / Program Head or Director:</b> Ian Affleck                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           | <b>Date approved:</b> September 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Faculty Council approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Campus-Wide Consultation (CWC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           | <b>Date of posting:</b> October 13, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Dean/Associate VP:</b> Lucy Lee                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Undergraduate Education Committee (UEC) approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           | <b>Date of meeting:</b> October 27, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |

**Learning Outcomes**

Building upon their knowledge of functions and function notation, successful students will be able to:

1. Demonstrate proficiency with the basic concepts and language of differential calculus,
2. Work with the derivative graphically and numerically, as well as algebraically,
3. Explain techniques of differentiation for algebraic and transcendental functions;
4. Demonstrate proficiency with the use of technology to explore mathematical concepts,
5. Use their knowledge of the derivative to model and solve problems from various disciplines, and
6. Communicate their approach to and solution of such problems.

**Prior Learning Assessment and Recognition (PLAR)**

☒ Yes      ☐ No, PLAR cannot be awarded for this course because

**Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)**

Lectures are interspersed with problem sessions; evaluation includes assignments, midterms, and a three-hour comprehensive final. Graphing calculators will be used. In addition, mathematical software may be used.

**Grading system:** Letter Grades: ☒ Credit/No Credit: ☐ Labs to be scheduled independent of lecture hours: Yes ☐ No ☐

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Typical Text(s) and Resource Materials**

The textbook is chosen by a departmental curriculum committee. Recent texts include:

| Author (surname, initials) | Title (article, book, journal, etc.)                         | Current ed.              | Publisher   | Year |
|----------------------------|--------------------------------------------------------------|--------------------------|-------------|------|
| 1. Adler & Lovric          | Calculus for the Life Sciences, 2 <sup>nd</sup> Canadian ed. | <input type="checkbox"/> | Nelson      | 2014 |
| 2. Stewart                 | Single Variable Calculus, Early Transcendentals, 8th ed.     | <input type="checkbox"/> | Brooks/Cole | 2016 |
| 3.                         |                                                              | <input type="checkbox"/> |             |      |
| 4.                         |                                                              | <input type="checkbox"/> |             |      |
| 5.                         |                                                              | <input type="checkbox"/> |             |      |

**Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)**

A graphing calculator (without a computer algebraic system) will be required.

**Typical Evaluation Methods and Weighting**

|                |     |              |     |                   |   |            |      |
|----------------|-----|--------------|-----|-------------------|---|------------|------|
| Final exam:    | 40% | Assignments: | 10% | Midterm exam:     | % | Practicum: | %    |
| Quizzes/tests: | 50% | Lab work:    | %   | Field experience: | % | Shop work: | %    |
| Other:         | %   | Other:       | %   | Other:            | % | Total:     | 100% |

**Details (if necessary):** Students must achieve at least 40% on the final exam in order to receive credit for this course.

**Typical Course Content and Topics**

Exact course content and ordering may vary slightly from year to year but will encompass the following:

**I. Preliminaries:**

1. brief review of functions, functional notations, and graphs\*
2. review of special functions and their graphs\*: power, polynomial, exponential, inverse, logarithmic, trigonometric

**II. The Derivative:**

1. introduction to derivatives and limits
2. interpretation of the derivative as a rate of change
3. geometric interpretation of first and second derivatives
4. definition of derivatives using numerical methods\*
5. formal definition of the derivative
6. limits and continuity
7. local linearity\*

**III. Differentiation of Special Functions:**

1. power functions
2. exponential functions
3. product, quotient, chain rules
4. trigonometric functions, inverse trigonometric functions
5. implicitly-defined functions
6. logarithmic differentiation

**IV. Applications of the Derivative:**

1. curve sketching\* and analysis of function behaviour; Mean Value Theorem
2. analysis of families of curves

**MATH 111****University of the Fraser Valley Official Undergraduate Course Outline**

Page 3 of 3

3. optimization problems from various disciplines, which may include physics, chemistry, biology, population studies, economics
4. related rates problems from various disciplines
5. Newton's method\*
6. L'Hopital's rule

**V. Antiderivatives****VI. Polar Curves and Parametric Functions**

1. polar coordinates and curves\*, with applications
2. differentiation of polar curves
3. parametric functions\* and applications
4. differentiation of parametric functions

\*While graphing calculators and/or technology are used throughout the course, they are particularly useful in helping students explore these concepts.

**Memo for Course Changes**

To: Allan Arndt, FSCC Chair

From: Ian Affleck, Department Head, Math & Stats

Date: August 21, 2017

**Subject: Proposal for revision of MATH 123**

1. Summary of changes (select all that apply):

- ☐ Six-year review
- ☐ Number and/or course code
- ☐ Credits and/or total hours
- ☐ Title
- ☐ Calendar description
- ☒ Prerequisites and/or co-requisites
- ☐ Frequency of course offering
- ☐ Learning outcomes
- ☐ Delivery methods and/or texts and resource materials
- ☐ PLAR options, grading system, and/or evaluation methods
- ☐ Discontinuation of course
- ☐ Other – Please specify:

2. Rationale for change:

Prerequisite list changes: two more options are being introduced up for students to enter MATH 123. One option (any UFV MATH course numbered 092 or higher) is to allow students in who don't have a BC high school background, but demonstrate preparedness by taking or transferring in a mathematics course that is at a higher level than those already listed. The other (a score of 17/25 or better on Part A of the MSAT) gives students without a listed background course a way to challenge entry into MATH 123, perhaps by studying independently.

3. If there are substantial changes to the learning outcomes, explain how they align with the learning outcomes of the program(s):

4. Is this course required by any program beyond the discipline? If so, how will this change affect that program or programs?

MATH 123 is not required in any programs.

5. Which program areas have been consulted about the change(s)?

None.

6. What consideration has been given to indigenizing the curriculum?

The changes proposed here are part of a broad analysis and revision of prerequisites for entry-level courses in Mathematics and Statistics. Proposed changes to the prerequisites for each of these courses are intended (1) to ensure that students who enter the course are adequately prepared, and (2) to provide alternate pathways to qualify for entry into the course, such as recently introduced upgrading courses (MATH 092 and/or MATH 093) and assessment testing (MSAT). The changes will help ensure that students of a variety of educational and social backgrounds are guided towards the university-level mathematics or statistics course that ensures the greatest chance of success in their desired program of study.

7. If this course is not eligible for PLAR, explain why:

8. If any of the following items on the official course outline have changed, explain how the change will affect the budget for your area or any other area:

- a. Credit value
- b. Class size limit
- c. Frequency of offering
- d. Resources required (labs, equipment)

9. Are field trips required for this course? (Field trip requirements must be announced in the timetable.) How are the trips funded?

No field trips are required.

10. Estimate of the typical costs for this course, including textbooks and other materials:

The changes proposed do not affect typical costs for these courses, which are roughly \$200 (textbook with online resources access package).



ORIGINAL COURSE IMPLEMENTATION DATE: September 2017  
 REVISED COURSE IMPLEMENTATION DATE: September 2018  
 COURSE TO BE REVIEWED: (six years after UEC approval) December 2022  
 Course outline form version: 09/15/14

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|------------------------------|--|------------------|---|------------------------|--|--------------------------------------------|--|----------------------------|--|----------------------|--|--------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Course Code and Number: MATH 123                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           | Number of Credits: 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Course Full Title: Everyday Math and Stats                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Course Short Title (if title exceeds 30 characters):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Faculty: Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           | Department (or program if no department): Math & Stats                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Calendar Description:</b><br>Designed for Arts and General Studies students, and anyone interested in the beauty and practical applications of mathematics and statistics in daily life. Critical thinking, problem solving, models of growth, everyday geometry, rates and percentages, normal distribution, linear regression, and personal finance are covered.<br><br>Note: Students with credit for MATH 105 cannot take this course for further credit.                                                                                                                                                                                                                                                      |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Prerequisites (or NONE):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           | One of the following: (C or better in one of Applications of Mathematics 11, Foundations of Mathematics 11, Principles of Mathematics 11, Pre-calculus 11, or MATH 085) or (B or better in Apprenticeship and Workplace Mathematics 12) or (one of Applications of Mathematics 12, Foundations of Mathematics 12, Principles of Mathematics 12, or Pre-calculus 12) or (any MATH or STAT course numbered 092 or higher) or (a score of 17/25 or higher on Part A of the MSAT) or (45 university-level credits).                   |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Corequisites (if applicable, or NONE):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Pre/corequisites (if applicable, or NONE):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Equivalent Courses (cannot be taken for additional credit)</b><br>Former course code/number:<br>Cross-listed with:<br>Equivalent course(s):<br><i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>                                                                                                                                                                                                                                                                                                                                                                |           | <b>Transfer Credit</b><br>Transfer credit already exists: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br><br>Transfer credit requested (OREg to submit to BCCAT):<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (if yes, fill in transfer credit form)<br><br>Resubmit revised outline for articulation: <input type="checkbox"/> Yes <input type="checkbox"/> No<br><br>To find out how this course transfers, see <a href="http://bctransferguide.ca">bctransferguide.ca</a> . |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Total Hours: 45</b><br><b>Typical structure of instructional hours:</b> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr><td>Lecture hours</td><td style="text-align: center;">40</td></tr> <tr><td>Seminars/tutorials/workshops</td><td></td></tr> <tr><td>Laboratory hours</td><td style="text-align: center;">5</td></tr> <tr><td>Field experience hours</td><td></td></tr> <tr><td>Experiential (practicum, internship, etc.)</td><td></td></tr> <tr><td>Online learning activities</td><td></td></tr> <tr><td>Other contact hours:</td><td></td></tr> <tr><td style="text-align: right;"><b>Total</b></td><td style="text-align: center;"><b>45</b></td></tr> </table> |           | Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 40 | Seminars/tutorials/workshops |  | Laboratory hours | 5 | Field experience hours |  | Experiential (practicum, internship, etc.) |  | Online learning activities |  | Other contact hours: |  | <b>Total</b> | <b>45</b> | <b>Special Topics</b><br>Will the course be offered with different topics?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br><br>If yes, different lettered courses may be taken for credit:<br><input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit<br><br><i>Note: The specific topic will be recorded when offered.</i> |  |
| Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 40        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Seminars/tutorials/workshops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Laboratory hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 5         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Field experience hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Experiential (practicum, internship, etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Online learning activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Other contact hours:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>45</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           | <b>Maximum enrolment (for information only): 28</b><br><br><b>Expected frequency of course offerings (every semester, annually, every other year, etc.): annually</b>                                                                                                                                                                                                                                                                                                                                                             |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Department / Program Head or Director: Ian Affleck                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           | Date approved: September 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Faculty Council approval                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           | Date approved: September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Campus-Wide Consultation (CWC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           | Date of posting: October 13, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Dean/Associate VP:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           | Date approved: September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Undergraduate Education Committee (UEC) approval                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           | Date of meeting: October 27, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |                              |  |                  |   |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |

**Learning Outcomes**

Upon successful completion of this course, students will be able to:

1. Analyze arguments, test argument validity, and construct counterexamples to invalid arguments.
2. Apply problem solving strategies.
3. Estimate calculations to roughly judge the value of a quantity.
4. Evaluate rates, proportions and percentages.
5. Model data with linear, quadratic, exponential, and logarithmic functions.
6. Differentiate between basic geometric concepts (point, line, plane).
7. Identify geometric measures (length, area, volume, angle).
8. Calculate basic probabilities.
9. Display, summarize, analyze and interpret statistical data.
10. Calculate descriptive statistics.
11. Find correlation and apply linear regression model to a given set of data.
12. Calculate simple and compound interest on investments.
13. Calculate present and future values of investments.
14. Calculate monthly payments, mortgages and loans.
15. Apply the above skills and tools to model real-world situations and phenomena to make predictions and sound decisions.

**Prior Learning Assessment and Recognition (PLAR)**

☒ Yes      ☐ No, PLAR cannot be awarded for this course because

**Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)**

Lectures, presentations, online text support; may be team-taught by a mathematician and statistician.

**Grading system:** Letter Grades: ☒ Credit/No Credit: ☐ Labs to be scheduled independent of lecture hours: Yes ☐ No ☒

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Typical Text(s) and Resource Materials (if more space is required, download Supplemental Texts and Resource Materials form)**

|    | Author (surname, initials) | Title (article, book, journal, etc.)                            | Current ed.                         | Publisher | Year |
|----|----------------------------|-----------------------------------------------------------------|-------------------------------------|-----------|------|
| 1. | K. Denley & M. Hall        | Viewing Life Mathematically: A Pathway to Quantitative Literacy | <input checked="" type="checkbox"/> | Hawkes    | 2016 |
| 2. | J.I. Brown                 | Mathematics for the Liberal Arts                                | <input checked="" type="checkbox"/> | CRC Press | 2015 |
| 3. |                            |                                                                 | <input type="checkbox"/>            |           |      |
| 4. |                            |                                                                 | <input type="checkbox"/>            |           |      |
| 5. |                            |                                                                 | <input type="checkbox"/>            |           |      |

**Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)**

Graphing calculator (eg, TI-84+), spreadsheet software (eg, Excel)

**Typical Evaluation Methods and Weighting**

|                       |              |              |     |                   |   |            |      |
|-----------------------|--------------|--------------|-----|-------------------|---|------------|------|
| Final exam            | 40% (or 30%) | Assignments: | 20% | Midterm exam:     | % | Practicum: | %    |
| Quizzes/tests:        | 40%          | Lab work:    | %   | Field experience: | % | Shop work: | %    |
| Presentations (opt'l) | 0% (or 10%)  | :            | %   | :                 | % | Total:     | 100% |

**Details (if necessary):** Optional essay and presentations in lieu of a portion of the final exam weighting. In order to pass the course, a student must achieve 40% or higher on the final exam or on the portion of the grade generated by the final exam and the presentation.

**Typical Course Content and Topics**

1. Critical thinking and problem solving
  - thinking mathematically
  - problem solving processes and techniques
  - estimating and evaluating
2. Rates, ratios, proportions and percentages
  - rates and unit rates
  - proportions, ratios
  - absolute and percentage changes
  - unit conversions (egs: currency, mileage, weight)
3. Mathematics of growth: models and predictions
  - the language of functions

- linear growth
  - quadratic models
  - exponential growth
  - logarithmic growth
4. Everyday geometry:
- lines, planes, angles
  - parallel and perpendicular lines
  - perimeters, areas, volumes
5. Probability and statistics:
- collecting and displaying data with graphs and charts
  - describing and analyzing data
  - calculating means, medians, and standard deviations
  - calculate basic probabilities
  - the normal distribution
  - linear regression and correlations
6. Personal finance:
- understanding personal finance
  - understanding simple and compound interest
  - savings and retirement funds
  - borrowing, mortgages and loans
7. As time permits, an optional topic to be chosen from the following:
- sports statistics
  - graph theory (trees, matchings, networks)
  - number theory (prime numbers, modular arithmetic, cryptography)
  - mathematics in art (planar symmetries, tilings, isometries)
  - voting and social choice (fairness, apportionment, weighted voting systems)

Students will have an option to write an essay and give a presentation on an interesting topic of their choice. Some examples of topics related to issues in Mathematics or Statistics include:

- Mathematics in architecture
- Mathematics in art (sculpture, textiles, different geometries)
- Game theory (probability, expectation)
- Famous math problems (math in the news)
- Logic games
- Mathematics in nature (fractal geometry, crystals)
- Mathematics and music (harmonies, ratios, logarithms and musical intervals)
- Opinion polls (margin of error, 19 times out of 20)
- Design of experiments (placebo effect, double-blind tests)
- Indigenous mathematics (patterns in art and weaving, 8way math, drum making)

**Memo for Course Changes**

To: Allan Arndt, FSCC Chair

From: Ian Affleck, Department Head, Math & Stats

Date: August 21, 2017

**Subject: Proposal for revision of MATH 124**

1. Summary of changes (select all that apply):

- ☐ Six-year review
- ☐ Number and/or course code
- ☐ Credits and/or total hours
- ☐ Title
- ☐ Calendar description
- ☒ Prerequisites and/or co-requisites
- ☐ Frequency of course offering
- ☐ Learning outcomes
- ☐ Delivery methods and/or texts and resource materials
- ☐ PLAR options, grading system, and/or evaluation methods
- ☐ Discontinuation of course
- ☐ Other – Please specify:

2. Rationale for change:

Prerequisite list changes: three more options are being introduced up for students to enter MATH 124. Two of these are recently introduced math upgrading courses: MATH 092 and MATH 096. The other (a score of 17/25 or better on Part A of the MSAT) gives students without a listed background course a way to challenge entry into 124, perhaps by studying independently.

3. If there are substantial changes to the learning outcomes, explain how they align with the learning outcomes of the program(s):

4. Is this course required by any program beyond the discipline? If so, how will this change affect that program or programs?

MATH 124 is not required in any programs.

5. Which program areas have been consulted about the change(s)?

None.

6. What consideration has been given to indigenizing the curriculum?

The changes proposed here are part of a broad analysis and revision of prerequisites for entry-level courses in Mathematics and Statistics. Proposed changes to the prerequisites for each of these courses are intended (1) to ensure that students who enter the course are adequately prepared, and (2) to provide alternate pathways to qualify for entry into the course, such as recently introduced upgrading courses (MATH 092 and/or MATH 093) and assessment testing (MSAT). The changes will help ensure that students of a variety of educational and social backgrounds are guided towards the university-level mathematics or statistics course that ensures the greatest chance of success in their desired program of study.

7. If this course is not eligible for PLAR, explain why:
8. If any of the following items on the official course outline have changed, explain how the change will affect the budget for your area or any other area:
  - a. Credit value
  - b. Class size limit
  - c. Frequency of offering
  - d. Resources required (labs, equipment)

9. Are field trips required for this course? (Field trip requirements must be announced in the timetable.) How are the trips funded?

No field trips are required.

10. Estimate of the typical costs for this course, including textbooks and other materials:

The changes proposed do not affect typical costs for these courses, which are roughly \$200 (textbook with online resources access package).



**ORIGINAL COURSE IMPLEMENTATION DATE:** September 2008  
**REVISED COURSE IMPLEMENTATION DATE:** September 2018  
**COURSE TO BE REVIEWED:** (six years after UEC approval) December 2022  
**Course outline form version:** 09/15/14

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

**Note:** The University reserves the right to amend course outlines as needed without notice.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|------------------------------|--|------------------|--|------------------------|--|--------------------------------------------|--|----------------------------|--|----------------------|--|--------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Course Code and Number:</b> MATH 124                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           | <b>Number of Credits:</b> 4 <a href="#">Course credit policy (105)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Course Full Title:</b> Finite Math with Applications in the Information Sciences                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Course Short Title (if title exceeds 30 characters):</b> Finite Math                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Faculty:</b> Faculty of Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           | <b>Department (or program if no department):</b> Mathematics & Statistics                                                                                                                                                                                                                                                                                                                                                                                                                                                         |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Calendar Description:</b><br><br>Reinforces skills in algebra, graphing, and problem solving, and provides an introduction to finite mathematical structures, algorithms, and techniques important in discrete math, statistics, and computer science. Whenever possible, concepts are motivated by information sciences applications.                                                                                                                                                                                                                                                                                                                               |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Prerequisites (or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           | One of the following: (C or better in one of Foundations of Mathematics 11, Principles of Mathematics 11, Pre-calculus 11, or MATH 085) or (one of Foundations of Mathematics 12, Principles of Mathematics 12, Pre-calculus 12, MATH 092, MATH 094, or MATH 096) or (a score of 17/25 or better on Part A of the MSAT).                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Pre/corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Equivalent Courses (cannot be taken for additional credit)</b><br>Former course code/number:<br>Cross-listed with:<br>Equivalent course(s):<br><i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>                                                                                                                                                                                                                                                                                                                  |           | <b>Transfer Credit</b><br>Transfer credit already exists: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br><br>Transfer credit requested (OREg to submit to BCCAT):<br><input type="checkbox"/> Yes <input type="checkbox"/> No (if yes, fill in transfer credit form)<br><br>Resubmit revised outline for articulation: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br><br>To find out how this course transfers, see <a href="http://bctransferguide.ca">bctransferguide.ca</a> . |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Total Hours: 60</b><br><b>Typical structure of instructional hours:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Lecture hours</td><td style="text-align: center;">60</td></tr> <tr><td>Seminars/tutorials/workshops</td><td></td></tr> <tr><td>Laboratory hours</td><td></td></tr> <tr><td>Field experience hours</td><td></td></tr> <tr><td>Experiential (practicum, internship, etc.)</td><td></td></tr> <tr><td>Online learning activities</td><td></td></tr> <tr><td>Other contact hours:</td><td></td></tr> <tr><td style="text-align: right;"><b>Total</b></td><td style="text-align: center;"><b>60</b></td></tr> </table> |           | Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 60 | Seminars/tutorials/workshops |  | Laboratory hours |  | Field experience hours |  | Experiential (practicum, internship, etc.) |  | Online learning activities |  | Other contact hours: |  | <b>Total</b> | <b>60</b> | <b>Special Topics</b><br>Will the course be offered with different topics?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br><br>If yes, different lettered courses may be taken for credit:<br><input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit<br><br><i>Note: The specific topic will be recorded when offered.</i> |  |
| Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 60        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Seminars/tutorials/workshops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Laboratory hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Field experience hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Experiential (practicum, internship, etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Online learning activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Other contact hours:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>60</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           | <b>Maximum enrolment (for information only):</b> 36<br><br><b>Expected frequency of course offerings (every semester, annually, every other year, etc.):</b> Annually                                                                                                                                                                                                                                                                                                                                                             |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Department / Program Head or Director:</b> Ian Affleck                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           | <b>Date approved:</b> September 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Faculty Council approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Campus-Wide Consultation (CWC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           | <b>Date of posting:</b> October 13, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Dean/Associate VP:</b> Lucy Lee                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <b>Undergraduate Education Committee (UEC) approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           | <b>Date of meeting:</b> October 27, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                          |  |

**Learning Outcomes**

Upon successful completion of this course, students will be able to:

1. Solve basic algebraic equations in one variable
2. Determine and compare asymptotic behaviour of power, polynomial, exponential, root, and logarithmic functions
3. Solve equations and inequalities involving power, polynomial, exponential, root, and logarithmic functions with the aid of graphing technology
4. Solve linear inequalities in two variables and interpret the solution set graphically
5. Construct systems of linear equations from a variety of applications
6. Apply row reduction algorithms to solve small linear systems by hand
7. Perform basic arithmetic operations with matrices
8. Use technology to compute the inverse of a matrix
9. Formulate linear programming restriction sets in a variety of applications
10. Solve small linear programming problems by graphical methods
11. Apply Venn diagrams and basic principles of counting to solve elementary counting problems
12. Apply basic principles of probability and counting to calculate the probabilities of events in simple applications

**Prior Learning Assessment and Recognition (PLAR)**

☒ Yes      ☐ No, PLAR cannot be awarded for this course because

**Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)**

Lectures may be interspersed with problem sessions. Graphing calculators will be used. In addition, mathematical software may be used.

**Grading system:** Letter Grades: ☒ Credit/No Credit: ☐ Labs to be scheduled independent of lecture hours: Yes ☐ No ☐

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Typical Text(s) and Resource Materials (if more space is required, download Supplemental Texts and Resource Materials form)**

| Author (surname, initials)                  | Title (article, book, journal, etc.)                            | Current ed.              | Publisher | Year |
|---------------------------------------------|-----------------------------------------------------------------|--------------------------|-----------|------|
| 1. Lial, Hungerford, Holcomb                | Finite Mathematics with Applications, 11 <sup>th</sup> edition  | <input type="checkbox"/> | Pearson   | 2015 |
| 2. Lial, Greenwell, Ritchey                 | Finite Mathematics, 11 <sup>th</sup> edition                    | <input type="checkbox"/> | Pearson   | 2016 |
| 3. Goldstein, Schneider, Siegel             | Finite Mathematics & Its Applications, 11 <sup>th</sup> edition | <input type="checkbox"/> | Pearson   | 2014 |
| 4. Beecher, Penna, Ellenbogen and Bittinger | Precalculus: Graphs and Models, 4 <sup>th</sup> edition         | <input type="checkbox"/> | Pearson   | 2009 |
| 5.                                          |                                                                 | <input type="checkbox"/> |           |      |

**Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)**

A graphing calculator will be required. Note that more than one text is usually required to cover all of the learning outcomes.

**Typical Evaluation Methods and Weighting**

|                |     |              |     |                   |     |            |      |
|----------------|-----|--------------|-----|-------------------|-----|------------|------|
| Final exam:    | 40% | Assignments: | 10% | Midterm exam:     | 30% | Practicum: | %    |
| Quizzes/tests: | 20% | Lab work:    | %   | Field experience: | %   | Shop work: | %    |
| Other:         | %   | Other:       | %   | Other:            | %   | Total:     | 100% |

**Details (if necessary):** Students must obtain at least 40% on the final exam to pass the course.

**Typical Course Content and Topics**

1. Algebra and equations:  
The real numbers; polynomials and factoring; rational expressions; exponents and radicals; linear and quadratic equations
2. Functions and graphs:  
Linear, quadratic, polynomial, exponential, and logarithmic functions; graphs, end behaviour and applications of the above functions; running time of algorithms
3. Linear algebra:  
Systems of linear equations; solutions by row reduction (by hand and using technology); matrix arithmetic and multiplication; matrix inverses; applications in information sciences
4. Linear programming:  
Graphing linear inequalities in two variables; solutions by graphical methods; applications
5. Introduction to set theory:  
Sets; union, intersection and complement; Venn diagrams
6. Introduction to counting and probability:  
The multiplication principle; permutations and combinations; probability and odds; basic rules of probability

**Memo for Course Changes**

To: Allan Arndt, FSCC Chair

From: Ian Affleck, Department Head, Math & Stats

Date: August 21, 2017

**Subject: Proposal for revision of MATH 125**

1. Summary of changes (select all that apply):

- ☐ Six-year review
- ☐ Number and/or course code
- ☒ Credits and/or total hours
- ☒ Title
- ☒ Calendar description
- ☒ Prerequisites and/or co-requisites
- ☐ Frequency of course offering
- ☐ Learning outcomes
- ☒ Delivery methods and/or texts and resource materials
- ☐ PLAR options, grading system, and/or evaluation methods
- ☐ Discontinuation of course
- ☐ Other – Please specify:

2. Rationale for change:

We are adding the recently introduced UUP course MATH 092 as a prerequisite option for MATH 125. This course will serve just as well as do MATH 096 and the pair (MATH 094 plus MATH 095), as it contains all of the material in those prerequisite options except trigonometry – which is not relevant to preparation for MATH 125.

We are also adding “a score of 17/25 or better on Part B of the MSAT together with a score of 34/50 on Parts A and B combined” as a prerequisite option for MATH 125. This is the same standard that has been used as a prerequisite option for MATH 141 and STAT 106.

Housekeeping edits and updates:

- The calendar description has been shortened and a “Course Short Title” has been added, to conform with UFV standards for Official Course Outlines.
- Total hours has been corrected to 60 from 75 (still all Lecture hours).
- Recent textbook has been updated.
- We propose to remove reference to MATH 243 as an equivalent course. MATH 243 has not been offered in more than 20 years, and last appeared in the academic calendar in 1996/97.
- Reference to web page “ufv.ca/math/challenge.htm” (non-existent) has been removed from PLAR section. (PLAR assessment is available via course challenge, in accordance with UFV course challenge policy.)

3. If there are substantial changes to the learning outcomes, explain how they align with the learning outcomes of the program(s):

4. Is this course required by any program beyond the discipline? If so, how will this change affect that program or programs?

MATH 125 is required for students in the BCIS. We have no reason to anticipate significant changes to this programs as a result of these prerequisite changes, which simply provide greater flexibility to students seeking to establish the course prerequisites.

5. Which program areas have been consulted about the change(s)?

The Department of Computer Information Systems was notified of the proposed change.

6. What consideration has been given to indigenizing the curriculum?

The changes proposed here are part of a broad analysis and revision of prerequisites for entry-level courses in Mathematics and Statistics. Proposed changes to the prerequisites for each of these courses are intended (1) to ensure that students who enter the course are adequately prepared, and (2) to provide alternate pathways to qualify for entry into the course, such as recently introduced upgrading courses (MATH 092 and/or MATH 093) and assessment testing (MSAT). The changes will help ensure that students of a variety of educational and social backgrounds are guided towards the university-level mathematics or statistics course that ensures the greatest chance of success in their desired program of study.

7. If this course is not eligible for PLAR, explain why:

8. If any of the following items on the official course outline have changed, explain how the change will affect the budget for your area or any other area:

- a. Credit value
- b. Class size limit
- c. Frequency of offering
- d. Resources required (labs, equipment)

9. Are field trips required for this course? (Field trip requirements must be announced in the timetable.) How are the trips funded?

No field trips are required.

10. Estimate of the typical costs for this course, including textbooks and other materials:

The changes proposed do not affect typical costs for this course, which are roughly \$200 (textbook).



ORIGINAL COURSE IMPLEMENTATION DATE: September 1995  
 REVISED COURSE IMPLEMENTATION DATE: September 2018  
 COURSE TO BE REVIEWED: (six years after UEC approval) December 2020  
 Course outline form version: 09/15/14

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|------------------------------|--|------------------|--|------------------------|--|--------------------------------------------|--|----------------------------|--|----------------------|--|--------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Course Code and Number:</b> MATH 125                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           | <b>Number of Credits:</b> 4 <a href="#">Course credit policy (105)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Course Full Title:</b> Introduction to Discrete Mathematics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Course Short Title (if title exceeds 30 characters):</b> Introduction to Discrete Math                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Faculty:</b> Faculty of Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           | <b>Department (or program if no department):</b> Mathematics and Statistics                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Calendar Description:</b><br>Serves as an introduction to some basic techniques in discrete mathematics, including methods of counting, modular arithmetic, and formal logic. The focus of the course will be on formulating problems into mathematical models and on methods applicable to the analysis of these models.                                                                                                                                                                                                                                                                                                                                          |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Prerequisites (or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           | One of the following: (C+ or better in Principles of Mathematics 12) or (C or better in one of Foundations of Mathematics 12, Pre-calculus 12, MATH 092, MATH 096, or MATH 124) or (C or better in both MATH 094 and MATH 095) or (B or better in Applications of Mathematics 12) or (MATH 110) or (a score of 17/25 or better on Part B of the MSAT together with a score of 34/50 on Parts A and B combined).                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Pre/corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Equivalent Courses (cannot be taken for additional credit)</b><br>Former course code/number:<br>Cross-listed with:<br>Equivalent course(s):<br><i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>                                                                                                                                                                                                                                                                                                                |           | <b>Transfer Credit</b><br>Transfer credit already exists: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Transfer credit requested (OREg to submit to BCCAT):<br><input type="checkbox"/> Yes <input type="checkbox"/> No (if yes, fill in transfer credit form)<br>Resubmit revised outline for articulation: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>To find out how this course transfers, see <a href="http://bctransferguide.ca">bctransferguide.ca</a> . |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Total Hours: 60</b><br><b>Typical structure of instructional hours:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Lecture hours</td><td style="text-align: right;">60</td></tr> <tr><td>Seminars/tutorials/workshops</td><td></td></tr> <tr><td>Laboratory hours</td><td></td></tr> <tr><td>Field experience hours</td><td></td></tr> <tr><td>Experiential (practicum, internship, etc.)</td><td></td></tr> <tr><td>Online learning activities</td><td></td></tr> <tr><td>Other contact hours:</td><td></td></tr> <tr><td style="text-align: right;"><b>Total</b></td><td style="text-align: right;"><b>60</b></td></tr> </table> |           | Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 60 | Seminars/tutorials/workshops |  | Laboratory hours |  | Field experience hours |  | Experiential (practicum, internship, etc.) |  | Online learning activities |  | Other contact hours: |  | <b>Total</b> | <b>60</b> | <b>Special Topics</b><br>Will the course be offered with different topics?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>If yes, different lettered courses may be taken for credit:<br><input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit<br><i>Note: The specific topic will be recorded when offered.</i> |  |
| Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 60        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Seminars/tutorials/workshops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Laboratory hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Field experience hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Experiential (practicum, internship, etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Online learning activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Other contact hours:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>60</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           | <b>Maximum enrolment (for information only):</b> 36<br><b>Expected frequency of course offerings (every semester, annually, every other year, etc.):</b> Every fall and winter                                                                                                                                                                                                                                                                                                                                        |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Department / Program Head or Director:</b> Ian Affleck                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           | <b>Date approved:</b> September 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Faculty Council approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Campus-Wide Consultation (CWC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           | <b>Date of posting:</b> October 13, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Dean/Associate VP:</b> Lucy Lee                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Undergraduate Education Committee (UEC) approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           | <b>Date of meeting:</b> October 27, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |

**MATH 125**

**University of the Fraser Valley Official Undergraduate Course Outline**

**Page 2 of 2**

**Learning Outcomes**

Upon successful completion of this course, students will be able to:

1. Explain and use basic counting arguments to enumerate combinatorial objects
2. Calculate and estimate simple probabilities
3. Explain and use the techniques of propositional calculus
4. Apply principles of elementary number theory

**Prior Learning Assessment and Recognition (PLAR)**

☒ Yes      ☐ No, PLAR cannot be awarded for this course because

**Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)**

This course is primarily lecture based. Individual student research is encouraged through the use of term projects.

**Grading system:** Letter Grades: ☒ Credit/No Credit: ☐ Labs to be scheduled independent of lecture hours: Yes ☐ No ☐

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Typical Text(s) and Resource Materials**

The textbook is chosen by a departmental curriculum committee. Recent text used:

| Author (surname, initials) | Title (article, book, journal, etc.)                        | Current ed.              | Publisher | Year |
|----------------------------|-------------------------------------------------------------|--------------------------|-----------|------|
| 1. Epp, S.                 | Discrete Mathematics with Applications, 4 <sup>th</sup> Ed. | <input type="checkbox"/> | Nelson    | 2010 |
| 2.                         |                                                             | <input type="checkbox"/> |           |      |
| 3.                         |                                                             | <input type="checkbox"/> |           |      |
| 4.                         |                                                             | <input type="checkbox"/> |           |      |
| 5.                         |                                                             | <input type="checkbox"/> |           |      |

**Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)**

Scientific calculator

**Typical Evaluation Methods and Weighting**

|                |     |              |     |                   |   |            |   |
|----------------|-----|--------------|-----|-------------------|---|------------|---|
| Final exam:    | 40% | Assignments: | 10% | Midterm exam:     | % | Practicum: | % |
| Quizzes/tests: | 50% | Lab work:    | %   | Field experience: | % | Shop work: | % |
| Other:         | %   | Other:       | %   | Other:            | % | Total:     | % |

**Details (if necessary):**

Students must obtain at least 40% on the final exam in order to pass this course.

**Typical Course Content and Topics**

Set Theory Counting:

- a) induction
- b) sums and products
- c) permutations and combinations
- d) binomial theorem
- e) inclusion/exclusion arguments
- f) introduction to probability
- g) pigeon hole principle
- h) recurrence relations

Logical Syntax/Semantics:

- a) informal versus formal arguments
- b) propositional calculus
- c) Boolean algebras

Number Theory:

- a) modular arithmetic
- b) primes and composites
- c) linear Diophantine equations

**Memo for Course Changes**

To: Allan Arndt, FSCC Chair

From: Ian Affleck, Department Head, Math & Stats

Date: August 21, 2017

**Subject: Proposal for revision of MATH 140**

1. Summary of changes (select all that apply):

- ☐ Six-year review
- ☐ Number and/or course code
- ☐ Credits and/or total hours
- ☒ Title
- ☒ Calendar description
- ☒ Prerequisites and/or co-requisites
- ☐ Frequency of course offering
- ☐ Learning outcomes
- ☒ Delivery methods and/or texts and resource materials
- ☐ PLAR options, grading system, and/or evaluation methods
- ☐ Discontinuation of course
- ☐ Other – Please specify:

2. Rationale for change:

After reviewing data provided by the UFV Office of Institutional Research regarding success rates in first-year Math and Stats courses, the Department of Mathematics and Statistics has identified several instances where certain current prerequisite standards are not adequately preparing students for UFV courses. In particular, we have concluded that students entering MATH 140 by way of Foundations of Math 11 or Foundations of Math 12, or with a grade of less than C in Precalculus 12 are at very high risk of not succeeding in the course.

We propose to change the prerequisites of MATH 140 to remove Foundations 11 and Foundations 12 as options, and to introduce a grade of C or better as the minimum prerequisite standard in Precalculus 12.

We are also adding the recently introduced UUP course MATH 092 as a prerequisite option for MATH 140.

Housekeeping edits and updates: The calendar description has been shortened and a "Course Short Title" has been added, and the typical textbook has been updated.

3. If there are substantial changes to the learning outcomes, explain how they align with the learning outcomes of the program(s):
4. Is this course required by any program beyond the discipline? If so, how will this change affect that program or programs?

The entrance requirements for the Business Administration Diploma include MATH 140. The prerequisite changes described above should have a positive impact on student success and retention in this program, as fewer students will be entering MATH 140 unprepared - and consequently requiring multiple attempts at this course to succeed.

There could be a small effect on the enrolment in these programs, but we expect this effect to be minimal. Of the 1266 students who took MATH 140 from Fall 2010 through Fall 2016,

- 103 entered via FOM 11 or FOM 12. (33 of those students received a C- or better in MATH 140.)
- 29 entered with a grade of C- in Precalculus 12. (15 received a C- or better in MATH 140.)

The data above was provided by the Office of Institutional Research. It does not track students who quit the course before the withdraw date, so the overall success rates are actually lower than what these numbers suggest.

5. Which program areas have been consulted about the change(s)?

We have consulted with the School of Business and the Department of Economics.

6. What consideration has been given to indigenizing the curriculum?

The changes proposed here are part of a broad analysis and revision of prerequisites for entry-level courses in Mathematics and Statistics. Proposed changes to the prerequisites for each of these courses are intended (1) to ensure that students who enter the course are adequately prepared, and (2) to provide alternate pathways to qualify for entry into the course, such as recently introduced upgrading courses (MATH 092 and/or MATH 093) and assessment testing (MSAT). The changes will help ensure that students of a variety of educational and social backgrounds are guided towards the university-level mathematics or statistics course that ensures the greatest chance of success in their desired program of study.

7. If this course is not eligible for PLAR, explain why:

8. If any of the following items on the official course outline have changed, explain how the change will affect the budget for your area or any other area:

- a. Credit value
- b. Class size limit
- c. Frequency of offering
- d. Resources required (labs, equipment)

9. Are field trips required for this course? (Field trip requirements must be announced in the timetable.) How are the trips funded?

No field trips are required.

10. Estimate of the typical costs for this course, including textbooks and other materials:

The changes proposed do not affect typical costs for this course, which are roughly \$200 (textbook with online resources access package).



ORIGINAL COURSE IMPLEMENTATION DATE: September 2009  
 REVISED COURSE IMPLEMENTATION DATE: September 2018  
 COURSE TO BE REVIEWED: (six years after UEC approval) September 2020  
 Course outline form version: 09/15/14

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

**Note:** The University reserves the right to amend course outlines as needed without notice.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|------------------------------|--|------------------|--|------------------------|--|--------------------------------------------|--|----------------------------|--|----------------------|--|--------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Course Code and Number:</b> MATH 140                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           | <b>Number of Credits:</b> 3 <a href="#">Course credit policy (105)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Course Full Title:</b> Algebra and Functions for Business                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Course Short Title (if title exceeds 30 characters):</b> Algebra & Functions for Business                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Faculty:</b> Faculty of Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           | <b>Department (or program if no department):</b> Mathematics and Statistics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Calendar Description:</b><br>Develops mathematical skills and techniques necessary for the study of calculus with business applications. Students will solve small linear systems of equations, examine linear, quadratic, cubic, rational, exponential, logarithmic, and logistic models and their graphs, and study various measures of change. Practical applications in business, economics, and the social sciences are emphasized.<br>Note: Students with credit for MATH 110 cannot take this course for further credit.                           |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Prerequisites (or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           | One of the following: (C+ or better in one of Foundations of Mathematics 11 or Pre-calculus 11) or (C or better in one of Principles of Mathematics 11 or MATH 085) or (one of Foundations of Mathematics 12, Pre-calculus 12, or Principles of Mathematics 12) or (a score of 17/25 or better on Part A of the MSAT).<br>Note: As of January 2019, prerequisites will change to one of the following: (C+ or better in Pre-calculus 11) or (C or better in one of Principles of Mathematics 11, or Pre-calculus 12, or MATH 085) or (one of Principles of Mathematics 12, MATH 092, or MATH 096) or (a score of 17/25 or better on Part A of the MSAT). |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           | NONE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Pre/corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           | NONE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Equivalent Courses (cannot be taken for additional credit)</b><br>Former course code/number:<br>Cross-listed with:<br>Equivalent course(s): <b>MATH 110</b><br>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.                                                                                                                                                                                              |           | <b>Transfer Credit</b><br>Transfer credit already exists: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Transfer credit requested (OREg to submit to BCCAT):<br><input type="checkbox"/> Yes <input type="checkbox"/> No (if yes, fill in transfer credit form)<br>Resubmit revised outline for articulation: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>To find out how this course transfers, see <a href="http://bctransferguide.ca">bctransferguide.ca</a> .                                                                                                                                    |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Total Hours: 45</b><br><b>Typical structure of instructional hours:</b> <table border="1"> <tr> <td>Lecture hours</td> <td>45</td> </tr> <tr> <td>Seminars/tutorials/workshops</td> <td></td> </tr> <tr> <td>Laboratory hours</td> <td></td> </tr> <tr> <td>Field experience hours</td> <td></td> </tr> <tr> <td>Experiential (practicum, internship, etc.)</td> <td></td> </tr> <tr> <td>Online learning activities</td> <td></td> </tr> <tr> <td>Other contact hours:</td> <td></td> </tr> <tr> <td><b>Total</b></td> <td><b>45</b></td> </tr> </table> |           | Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 45 | Seminars/tutorials/workshops |  | Laboratory hours |  | Field experience hours |  | Experiential (practicum, internship, etc.) |  | Online learning activities |  | Other contact hours: |  | <b>Total</b> | <b>45</b> | <b>Special Topics</b><br>Will the course be offered with different topics?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>If yes, different lettered courses may be taken for credit:<br><input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit<br>Note: The specific topic will be recorded when offered. |  |
| Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 45        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Seminars/tutorials/workshops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Laboratory hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Field experience hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Experiential (practicum, internship, etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Online learning activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Other contact hours:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>45</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           | <b>Maximum enrolment (for information only):</b> 36<br><b>Expected frequency of course offerings (every semester, annually, every other year, etc.):</b> Every semester                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Department / Program Head or Director:</b> Ian Affleck                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           | <b>Date approved:</b> September 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Faculty Council approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Campus-Wide Consultation (CWC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           | <b>Date of posting:</b> October 13, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Dean/Associate VP:</b> Lucy Lee                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Undergraduate Education Committee (UEC) approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           | <b>Date of meeting:</b> October 27, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                           |  |

**Learning Outcomes**

Upon successful completion of this course, students will be able to:

1. Perform arithmetic combinations of polynomial and rational expressions
2. Factor quadratic and some cubic expressions
3. Solve linear and quadratic equations, linear inequalities, and inequalities involving absolute values
4. Solve small systems of linear equations algebraically and graphically
5. Demonstrate appropriate use and interpretation of function notation
6. Sketch the graph of a given function and analyse a given graph of a function
7. Using graph, data, equation, or application, identify the following models: linear, quadratic, cubic, exponential, logarithmic, logistic
8. Use technology to construct regression equations for the above models from data, including piecewise-defined models
9. Compute and interpret inverses of linear, exponential, and logarithmic functions
10. Solve exponential and logarithmic equations
11. Translate between graph, point-slope form, and slope-intercept form of a line
12. Compute and interpret difference quotient and average rate of change of a function and secant slope on a graph
13. Interpret all results in the field of interest from which the model being analyzed arose

**Prior Learning Assessment and Recognition (PLAR)**

☒ Yes      ☐ No, PLAR cannot be awarded for this course because  
Course Challenge

**Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)**

Students will learn to use graphing calculators as a tool for plotting and analyzing functions.

**Grading system:** Letter Grades: ☐ Credit/No Credit: ☐ Labs to be scheduled independent of lecture hours: Yes ☐ No ☐

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Typical Text(s) and Resource Materials**

| Author (surname, initials) | Title (article, book, journal, etc.)                | Current ed.              | Publisher | Year |
|----------------------------|-----------------------------------------------------|--------------------------|-----------|------|
| 1. Bittinger et al         | Precalculus: Graphs and Models, 4 <sup>th</sup> ed. | <input type="checkbox"/> | Pearson   | 2009 |
| 2.                         |                                                     | <input type="checkbox"/> |           |      |
| 3.                         |                                                     | <input type="checkbox"/> |           |      |
| 4.                         |                                                     | <input type="checkbox"/> |           |      |
| 5.                         |                                                     | <input type="checkbox"/> |           |      |

**Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)**

A Texas Instruments graphing calculator (TI-83, TI-83Plus, TI-84, TI-85, or TI-86) is required

**Typical Evaluation Methods and Weighting**

|                |     |              |     |                   |   |            |      |
|----------------|-----|--------------|-----|-------------------|---|------------|------|
| Final exam:    | 40% | Assignments: | 10% | Midterm exam:     | % | Practicum: | %    |
| Quizzes/tests: | 50% | Lab work:    | %   | Field experience: | % | Shop work: | %    |
| Other:         | %   | Other:       | %   | Other:            | % | Total:     | 100% |

**Details (if necessary):**

\* Students must obtain at least 40% on the final exam to pass the course, regardless of term grades.

**Typical Course Content and Topics**

**1. Algebra:**

- (a) Real numbers and their properties, intervals, absolute value
- (b) Integer exponents, order of operations
- (c) Polynomial arithmetic and basic factoring
- (d) Rational expressions: domain, arithmetic, simplification
- (e) Radical notation and rational exponents
- (f) Solving linear and quadratic equations, linear inequalities

**2. Linear systems:**

- (a) Solving 2-variable linear systems algebraically and graphically
- (b) Solving 3-variable linear systems algebraically and with the use of technology

**3. Functions:**

- (a) Linear, quadratic, cubic, exponential, logarithmic, logistic, simple rational functions
- (b) Function notation
- (c) Graph of a function
- (d) Using functions to relate mathematical equations to real situations
- (e) Piecewise-defined functions
- (f) Combinations, compositions, and transformations of functions
- (g) Inverse functions: finding them graphically and algebraically, understanding their uses

**4. Modeling and regression:**

- (a) How to choose and build linear, exponential, logarithmic, logistic, polynomial models using technology
- (b) Constructing piecewise-continuous models using technology

**5. Applications in business and the social sciences**

- (a) Population growth, compound interest, depreciation, doubling time, and halving time
- (b) Supply and demand equilibrium, break-even point
- (c) Cost, revenue, profit as functions of production level

**6. Introduction to calculus**

- (a) Difference quotients, secant slopes, average rate of change
- (b) Introduction to tangent lines and the instantaneous rate of change

**Memo for Course Changes**

To: Allan Arndt, FSCC Chair

From: Ian Affleck, Department Head, Math & Stats

Date: August 21, 2017

**Subject: Proposal for revision of MATH 141**

1. Summary of changes (select all that apply):

- ☐ Six-year review
- ☐ Number and/or course code
- ☐ Credits and/or total hours
- ☐ Title
- ☒ Calendar description
- ☒ Prerequisites and/or co-requisites
- ☐ Frequency of course offering
- ☐ Learning outcomes
- ☒ Delivery methods and/or texts and resource materials
- ☐ PLAR options, grading system, and/or evaluation methods
- ☐ Discontinuation of course
- ☐ Other – Please specify:

2. Rationale for change:

After reviewing data provided by the UFV Office of Institutional Research regarding success rates in first-year Math and Stats courses, the Department of Mathematics and Statistics has identified several instances where certain current prerequisite standards are not adequately preparing students for UFV courses. In particular, we have concluded that students entering MATH 141 by way of Foundations of Math 12, or with a grade of less than C in Precalculus 12 are at very high risk of not succeeding in that course.

We propose to change the prerequisites of MATH 141 to remove Foundations 12 as an option, and to introduce a grade of C or better as the minimum prerequisite standard in Precalculus 12.

We are also adding the recently introduced UUP course MATH 092 as a prerequisite option for MATH 141.

Housekeeping edits and updates: The calendar description has been shortened to conform with UFV standards for Official Course Outlines, and the typical textbook has been updated.

3. If there are substantial changes to the learning outcomes, explain how they align with the learning outcomes of the program(s):
4. Is this course required by any program beyond the discipline? If so, how will this change affect that program or programs?

The entrance requirements for the BBA include the prerequisites for MATH 141. The BBA requires MATH 141, and the Economics major and minor each require either MATH 141 or MATH 111. The prerequisite changes described above should have a positive impact on student success and retention in these programs, as fewer students will be entering MATH 141 unprepared - and consequently requiring multiple attempts at this course to succeed.

There could be a small effect on the enrolment in these programs, but we expect this effect to be minimal. Of the 2403 students who took MATH 141 from Fall 2010 through Fall 2016,,

- 102 entered via FOM 12. (45 of those students received a C- or better in MATH 141.)
- 12 entered with a grade of C- in Precalculus 12. (7 received a C- or better in MATH 141.)

The data above was provided by the Office of Institutional Research. It does not track students who quit the course before the withdraw date, so the overall success rates are actually lower than what these numbers suggest.

5. Which program areas have been consulted about the change(s)?

We have consulted with the School of Business and the Department of Economics.

6. What consideration has been given to indigenizing the curriculum?

The changes proposed here are part of a broad analysis and revision of prerequisites for entry-level courses in Mathematics and Statistics. Proposed changes to the prerequisites for each of these courses are intended (1) to ensure that students who enter the course are adequately prepared, and (2) to provide alternate pathways to qualify for entry into the course, such as recently introduced upgrading courses (MATH 092 and/or MATH 093) and assessment testing (MSAT). The changes will help ensure that students of a variety of educational and social backgrounds are guided towards the university-level mathematics or statistics course that ensures the greatest chance of success in their desired program of study.

7. If this course is not eligible for PLAR, explain why:

8. If any of the following items on the official course outline have changed, explain how the change will affect the budget for your area or any other area:

- a. Credit value
- b. Class size limit
- c. Frequency of offering
- d. Resources required (labs, equipment)

9. Are field trips required for this course? (Field trip requirements must be announced in the timetable.) How are the trips funded?

No field trips are required.

10. Estimate of the typical costs for this course, including textbooks and other materials:

The changes proposed do not affect typical costs for this course, which are roughly \$200 (textbook with online resources access package).



ORIGINAL COURSE IMPLEMENTATION DATE: September 2010  
 REVISED COURSE IMPLEMENTATION DATE: September 2018  
 COURSE TO BE REVIEWED: (six years after UEC approval) January 2020  
 Course outline form version: 09/15/14

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

**Note: The University reserves the right to amend course outlines as needed without notice.**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|------------------------------|--|------------------|--|------------------------|--|--------------------------------------------|--|----------------------------|--|----------------------|--|--------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Course Code and Number:</b> MATH 141                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           | <b>Number of Credits:</b> 3 <a href="#">Course credit policy (105)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Course Full Title:</b> Calculus for Business                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Course Short Title (if title exceeds 30 characters):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Faculty:</b> Faculty of Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           | <b>Department (or program if no department):</b> Mathematics and Statistics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Calendar Description:</b><br><p>Functions used in business, economics, and social science are analyzed, using techniques of single-variable differential and integral calculus, and the applications of these results are interpreted. Topics include optimization, curvature analysis, related rates, marginal analysis, linear approximation, and approximation of total change and average value by antidifferentiation and the Fundamental Theorem of Calculus.</p> <p>Note: Students with credit for MATH 111 cannot take this course for further credit.</p>                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Prerequisites (or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           | One of the following: (C+ or better in one of Foundations of Mathematics 12, Precalculus 12, Principles of Math 12, MATH 096, or MATH 110) or (C+ or better in both MATH 094 and 095) or (C or better in MATH 140) or (a score of 17/25 or better on Part B of the MSAT together with a score of 34/50 or better on Parts A and B combined).<br>Note: As of January 2019, prerequisites will change to one of the following: (C+ or better in one of Principles of Mathematics 12, Pre-calculus 12, MATH 096, or MATH 110) or (C+ or better in both MATH 094 and 095) or (C or better in MATH 092 or MATH 140) or (a score of 17/25 or better on Part B of the MSAT together with a score of 34/50 or better on Parts A and B combined). |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           | NONE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Pre/corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           | NONE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Equivalent Courses (cannot be taken for additional credit)</b><br>Former course code/number: <b>MATH 115</b><br>Cross-listed with:<br>Equivalent course(s): <b>MATH 111</b><br><i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>                                                                                                                                                                                                                                                                                  |           | <b>Transfer Credit</b><br>Transfer credit already exists: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Transfer credit requested (OREg to submit to BCCAT):<br><input type="checkbox"/> Yes <input type="checkbox"/> No (if yes, fill in transfer credit form)<br>Resubmit revised outline for articulation: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                                                                                                                                                                                                                                               |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Total Hours: 45</b><br><b>Typical structure of instructional hours:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Lecture hours</td><td style="text-align: center;">45</td></tr> <tr><td>Seminars/tutorials/workshops</td><td></td></tr> <tr><td>Laboratory hours</td><td></td></tr> <tr><td>Field experience hours</td><td></td></tr> <tr><td>Experiential (practicum, internship, etc.)</td><td></td></tr> <tr><td>Online learning activities</td><td></td></tr> <tr><td>Other contact hours:</td><td></td></tr> <tr><td style="text-align: right;"><b>Total</b></td><td style="text-align: center;"><b>45</b></td></tr> </table> |           | Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 45 | Seminars/tutorials/workshops |  | Laboratory hours |  | Field experience hours |  | Experiential (practicum, internship, etc.) |  | Online learning activities |  | Other contact hours: |  | <b>Total</b> | <b>45</b> | <b>Special Topics</b><br>Will the course be offered with different topics?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>If yes, different lettered courses may be taken for credit:<br><input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit<br><i>Note: The specific topic will be recorded when offered.</i> |  |
| Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 45        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Seminars/tutorials/workshops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Laboratory hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Field experience hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Experiential (practicum, internship, etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Online learning activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Other contact hours:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>45</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           | <b>Maximum enrolment (for information only):</b> 36<br><b>Expected frequency of course offerings (every semester, annually, every other year, etc.):</b> Annually                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Department / Program Head or Director:</b> Ian Affleck                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           | <b>Date approved:</b> September 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Faculty Council approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Campus-Wide Consultation (CWC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           | <b>Date of posting:</b> October 13, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Dean/Associate VP:</b> Lucy Lee                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Undergraduate Education Committee (UEC) approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           | <b>Date of meeting:</b> October 27, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |                              |  |                  |  |                        |  |                                            |  |                            |  |                      |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                  |  |

**Learning Outcomes**

Upon successful completion of this course, students will be able to:

1. Compute asymptotic limits and limiting difference quotients of simple functions numerically
2. Estimate tangent slopes graphically and estimate instantaneous rates of change numerically
3. Translate between tangent slope, instantaneous rate of change, and derivative notation
4. Describe derivative functions graphically, numerically, and algebraically
5. Apply techniques of differentiation (including product, quotient and chain rules) to compute the derivatives of functions built from polynomial, exponential, and logarithmic expressions
6. Apply derivatives to approximate function values and solve applied problems in optimization, related rates, and marginal analysis
7. Compute antiderivatives of basic functions
8. Use definite integrals to compute area under a curve, total change, and average value; both algebraically and with the aid of technology
9. Interpret all results in the field of interest from which the model being analyzed arose

**Prior Learning Assessment and Recognition (PLAR)**

☒ Yes      ☐ No, PLAR cannot be awarded for this course because

**Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)**

Students will learn to use graphing calculators as a tool for plotting and analyzing functions

**Grading system:** Letter Grades: ☒ Credit/No Credit: ☐ Labs to be scheduled independent of lecture hours: Yes ☐ No ☐

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Typical Text(s) and Resource Materials**

| Author (surname, initials) | Title (article, book, journal, etc.)                              | Current ed.              | Publisher | Year |
|----------------------------|-------------------------------------------------------------------|--------------------------|-----------|------|
| 1. Bittinger et al         | Calculus and its Applications, 2 <sup>nd</sup> custom ed. for UFV | <input type="checkbox"/> | Pearson   | 2016 |
| 2.                         |                                                                   | <input type="checkbox"/> |           |      |
| 3.                         |                                                                   | <input type="checkbox"/> |           |      |

**Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)**

Texas Instruments graphing calculator (TI-83, TI-83Plus, TI-84, TI-85, or TI-86) is required.

**Typical Evaluation Methods and Weighting**

|                |     |              |     |                   |   |            |      |
|----------------|-----|--------------|-----|-------------------|---|------------|------|
| Final exam:    | 40% | Assignments: | 15% | Midterm exam:     | % | Practicum: | %    |
| Quizzes/tests: | 45% | Lab work:    | %   | Field experience: | % | Shop work: | %    |
| Other:         | %   | Other:       | %   | Other:            | % | Total:     | 100% |

**Details (if necessary):** Students must obtain at least 40% on the final exam to pass the course, regardless of term grades.

**Typical Course Content and Topics**

1. Limits, continuity, differentiability:
  - (a) Examining asymptotic limits, graphically and numerically
  - (b) Numerically estimating limiting difference quotients
2. The derivative:
  - (a) The numerical derivative as a tangent slope and as an instantaneous rate of change
  - (b) Derivative functions
  - (c) Using the graph of a function to graph its derivative
3. Techniques of differentiation:
  - (a) Constant, constant multiple, sum and difference rules
  - (b) Product and quotient rules
  - (c) The chain rule
  - (d) Second-order derivatives
4. Applications of differentiation:
  - (a) Optimization
  - (b) Marginal analysis
  - (c) Curvature and inflection points
  - (d) Linear approximation of change
  - (e) Related rates
5. Integration:
  - (a) The definite integral and its connection to area and total change.
  - (b) Accumulation functions
  - (c) The Fundamental Theorem of Calculus
  - (d) Average value of a function

**Memo for Course Changes**

To: Allan Arndt, FSCC Chair

From: Ian Affleck, Department Head, Math & Stats

Date: August 21, 2017

**Subject: Proposal for revision of STAT 106**

1. Summary of changes (select all that apply):

- ☐ Six-year review
- ☐ Number and/or course code
- ☐ Credits and/or total hours
- ☐ Title
- ☒ Calendar description
- ☒ Prerequisites and/or co-requisites
- ☐ Frequency of course offering
- ☐ Learning outcomes
- ☒ Delivery methods and/or texts and resource materials
- ☐ PLAR options, grading system, and/or evaluation methods
- ☐ Discontinuation of course
- ☐ Other – Please specify:

2. Rationale for change:

After reviewing data provided by the UFV Office of Institutional Research regarding success rates in first-year Math and Stats courses, the Department of Mathematics and Statistics has identified several instances where certain current prerequisite standards are not adequately preparing students for UFV courses. In particular, we have concluded that students entering STAT 106 with a grade of less than B in Foundations of Math 12 or with a grade of less than C in Precalculus 12 are at very high risk of not succeeding in the course.

We propose to change the prerequisites of STAT 106 to introduce a B in Foundations or Math 12 and C in Precalculus 12 as the minimum prerequisite standards in these courses.

We are also adding the recently introduced UUP course MATH 092 as a prerequisite option for STAT 106.

Housekeeping edits and updates:

- The calendar description has been shortened to conform with UFV standards for Official Course Outlines.
- The allocation of contact hours has been corrected to 40 lecture and 20 lab (from 45 lecture and 15 lab) to more accurately represent the proportion of contact time that is allocated to each of these instructional delivery styles.
- Reference to a web page which no longer exists in the PLAR section has been removed. (PLAR for this course is available via the UFV course challenge policy.)

3. If there are substantial changes to the learning outcomes, explain how they align with the learning outcomes of the program(s):
4. Is this course required by any program beyond the discipline? If so, how will this change affect that program or programs?

STAT 106 is required in the BBA, the BBA (Aviation), and the Business Administration Diploma, as well as in the BCIS program. This change should have a positive impact on student success and retention in those programs, as fewer students will be entering this course unprepared - and consequently requiring multiple attempts to complete it successfully.

There could be a small effect on the enrolment in these programs, but we expect this effect to be minimal. Of the 3765 students who took STAT 106 between Fall 2010 and Fall 2016 (inclusive), only 13 qualified to enter the course with a grade below B in Foundations of Math 12 (of which only 4 passed STAT 106), and only 19 qualified to enter the course with a grade below C in Precalculus 12 (of which only 9 passed STAT 106).

5. Which program areas have been consulted about the change(s)?

We have consulted with the School of Business and the Department of Computer Information Systems.

6. What consideration has been given to indigenizing the curriculum?

The changes proposed here are part of a broad analysis and revision of prerequisites for entry-level courses in Mathematics and Statistics. Proposed changes to the prerequisites for each of these courses are intended (1) to ensure that students who enter the course are adequately prepared, and (2) to provide alternate pathways to qualify for entry into the course, such as recently introduced upgrading courses (MATH 092 and/or MATH 093) and assessment testing (MSAT). The changes will help ensure that students of a variety of educational and social backgrounds are guided towards the university-level mathematics or statistics course that ensures the greatest chance of success in their desired program of study.

7. If this course is not eligible for PLAR, explain why:
8. If any of the following items on the official course outline have changed, explain how the change will affect the budget for your area or any other area:
  - a. Credit value
  - b. Class size limit
  - c. Frequency of offering
  - d. Resources required (labs, equipment)
9. Are field trips required for this course? (Field trip requirements must be announced in the timetable.) How are the trips funded?

No field trips are required.

10. Estimate of the typical costs for this course, including textbooks and other materials:

The changes proposed do not affect typical costs for this course, which are roughly \$200 (textbook with online resources access package).



ORIGINAL COURSE IMPLEMENTATION DATE: September 1990  
 REVISED COURSE IMPLEMENTATION DATE: September 2018  
 COURSE TO BE REVIEWED: (six years after UEC approval) January 2020  
 Course outline form version: 09/15/14

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

**Note:** The University reserves the right to amend course outlines as needed without notice.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |    |                        |  |                                            |  |                            |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|------------------------------|--|------------------|----|------------------------|--|--------------------------------------------|--|----------------------------|--|--------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Course Code and Number:</b> STAT 106                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           | <b>Number of Credits:</b> 4 <a href="#">Course credit policy (105)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |    |                              |  |                  |    |                        |  |                                            |  |                            |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Course Full Title:</b> Statistics I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |    |                        |  |                                            |  |                            |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Course Short Title (if title exceeds 30 characters):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |    |                        |  |                                            |  |                            |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Faculty:</b> Faculty of Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           | <b>Department (or program if no department):</b> Mathematics and Statistics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |                              |  |                  |    |                        |  |                                            |  |                            |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Calendar Description:</b><br><p>An introduction to descriptive statistics, sampling, probability, estimation, hypothesis testing, correlation, regression, and analysis of variances, including multiple linear regression and one-way ANOVA. Faculty with Grade 12 level algebra is expected, but no calculus is required.</p> <p>Note: As a general rule, students with Math 11 are expected to take STAT 104, those with Math 12 are expected to take STAT 106, and those with a full year of calculus are expected to take STAT 270/MATH 270. Before registering, students should check the requirements of their program. UFV mathematics degrees require STAT 270. Students with credit for STAT 106 may subsequently take STAT 270 in order to satisfy the requirements for a math degree.</p> <p>Note: Students with credit for MATH 106 or MATH/STAT 270 cannot take this course for further credit.</p> |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |    |                        |  |                                            |  |                            |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Prerequisites (or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           | <p>One of the following: (C or better in one of Principles of Mathematics 12, Applications of Mathematics 12, Foundations of Mathematics 12, Pre-calculus 11, MATH 096, MATH 110, MATH 124, or MATH 140) or (C or better in both MATH 094 and MATH 095) or (Pre-calculus 12) or (a score of 17/25 or better on Part B of the MSAT together with a score of 34/50 or better on Parts A and B combined).</p> <p>Note: As of January 2019, prerequisites will change to one of the following: (C or better in one of Pre-calculus 11, Applications of Mathematics 12, Principles of Mathematics 12, Pre-calculus 12, MATH 092, MATH 096, MATH 110, MATH 124, or MATH 140) or (C or better in both MATH 094 and MATH 095) or (B or better in Foundations of Mathematics 12) or (a score of 17/25 or better on Part B of the MSAT together with a score of 34/50 or better on Parts A and B combined).</p> |    |                              |  |                  |    |                        |  |                                            |  |                            |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Equivalent Courses (cannot be taken for additional credit)</b><br>Former course code/number: <b>MATH 106</b><br>Cross-listed with:<br>Equivalent course(s): <b>STAT 104, STAT 270/MATH 270</b><br><i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           | <b>Transfer Credit</b><br>Transfer credit already exists: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Transfer credit requested (OREg to submit to BCCAT):<br><input type="checkbox"/> Yes <input type="checkbox"/> No (if yes, fill in transfer credit form)<br>Resubmit revised outline for articulation: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |                              |  |                  |    |                        |  |                                            |  |                            |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Total Hours: 60</b><br><b>Typical structure of instructional hours:</b> <table border="1"> <tr> <td>Lecture hours</td> <td>40</td> </tr> <tr> <td>Seminars/tutorials/workshops</td> <td></td> </tr> <tr> <td>Laboratory hours</td> <td>20</td> </tr> <tr> <td>Field experience hours</td> <td></td> </tr> <tr> <td>Experiential (practicum, internship, etc.)</td> <td></td> </tr> <tr> <td>Online learning activities</td> <td></td> </tr> <tr> <td><b>Total</b></td> <td><b>60</b></td> </tr> </table>                                                                                                                                                                                                                                                                                                                                                                                                          |           | Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 40 | Seminars/tutorials/workshops |  | Laboratory hours | 20 | Field experience hours |  | Experiential (practicum, internship, etc.) |  | Online learning activities |  | <b>Total</b> | <b>60</b> | <b>Special Topics</b><br>Will the course be offered with different topics?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>If yes, different lettered courses may be taken for credit:<br><input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit<br><b>Maximum enrolment (for information only): 36</b><br><b>Expected frequency of course offerings (every semester, annually, every other year, etc.):</b> Every semester |  |
| Lecture hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 40        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |    |                        |  |                                            |  |                            |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Seminars/tutorials/workshops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |    |                        |  |                                            |  |                            |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Laboratory hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 20        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |    |                        |  |                                            |  |                            |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Field experience hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |    |                        |  |                                            |  |                            |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Experiential (practicum, internship, etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |    |                        |  |                                            |  |                            |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Online learning activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |    |                        |  |                                            |  |                            |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>60</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                              |  |                  |    |                        |  |                                            |  |                            |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Department / Program Head or Director:</b> Ian Affleck                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           | <b>Date approved:</b> September 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |                              |  |                  |    |                        |  |                                            |  |                            |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Faculty Council approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |                              |  |                  |    |                        |  |                                            |  |                            |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Campus-Wide Consultation (CWC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           | <b>Date of posting:</b> October 13, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |  |                  |    |                        |  |                                            |  |                            |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Dean/Associate VP:</b> Lucy Lee                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           | <b>Date approved:</b> September 8, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |                              |  |                  |    |                        |  |                                            |  |                            |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Undergraduate Education Committee (UEC) approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           | <b>Date of meeting:</b> October 27, 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                              |  |                  |    |                        |  |                                            |  |                            |  |              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |

**Learning Outcomes**

Upon successful completion of this course, students will be able to:

1. Construct frequency tables and use numerical and graphical methods to explore qualitative and quantitative data;
2. Obtain measures of location, dispersion, and relative standing, and interpret;
3. Solve simple problems in probability requiring knowledge of conditional probability and statistical independence;
4. Solve problems regarding binomial and normal probability models; Draw random sample, with and without replacement, from a population and identify the sampling distribution of the sample mean;
5. Construct and interpret confidence intervals for means and proportions;
6. Conduct hypotheses test for means and proportions and interpret p-value;
7. Compare two means and two proportions by constructing confidence intervals and performing test of hypotheses;
8. Use ANOVA method to test equality of several means;
9. Apply Pearson's chi-square statistic to draw inferences in appropriate categorical sampling situations;
10. Apply and interpret simple and multiple linear regression models and the associated Analysis of Variance (ANOVA) tables;
11. Use categorical predictors in multiple linear regression by defining indicator (dummy) variables;
12. Use statistical software (for example Minitab) to produce graphs and perform statistical analysis.

**Prior Learning Assessment and Recognition (PLAR)**

☒ Yes      ☐ No, PLAR cannot be awarded for this course because

**Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)**

Lectures, mixed with sessions in the computer lab.

**Grading system:** Letter Grades: ☒ Credit/No Credit: ☐ Labs to be scheduled independent of lecture hours: Yes ☐ No ☒

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Typical Text(s) and Resource Materials**

The text is chosen by a departmental curriculum committee. Recent text:

| Author (surname, initials) | Title (article, book, journal, etc.) | Current ed.              | Publisher     | Year |
|----------------------------|--------------------------------------|--------------------------|---------------|------|
| 1. McClave and Sincich     | Statistics. 13th edition             | <input type="checkbox"/> | Prentice-Hall |      |
| 2.                         |                                      | <input type="checkbox"/> |               |      |
| 3.                         |                                      | <input type="checkbox"/> |               |      |

**Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)**

A scientific calculator with statistical functions is required.

**Typical Evaluation Methods and Weighting**

|                |     |              |     |                   |   |            |      |
|----------------|-----|--------------|-----|-------------------|---|------------|------|
| Final exam:    | 40% | Assignments: | 10% | Midterm exam:     | % | Practicum: | %    |
| Quizzes/tests: | 50% | Lab work:    | %   | Field experience: | % | Shop work: | %    |
| Other:         | %   | Other:       | %   | Other:            | % | Total:     | 100% |

**Details (if necessary):** Students must achieve at least 40% on the final exam in order to receive credit for this course.

**Typical Course Content and Topics**

1. Introduction to statistical concepts: types of statistical application, distinguishing between population and sample, types of data, and role of statistics in real world problems.
2. Descriptive statistics.  
Frequency tables, histograms, cumulative frequencies, box plot, bar graph, pie chart, etc.  
Measures of location, e.g. mean, median, mode; and scale, e.g. standard deviation, quantiles, Identifying outliers by box plot.
3. Probability: Two-way tables, Venn and tree diagrams; joint, marginal and conditional probability, Independence and dependence, Bayes' Theorem, counting rules, simple models for discrete random variables, sampling with and without replacement, expectation, mean, variance and standard deviation, the binomial distribution, the normal distribution, standardization, linear transformations, the chi-square probability distribution, random sampling, simulation, especially as applied to limit theorems, e.g. the Central Limit Theorem.
4. Inferential statistics: estimation, confidence intervals and tests of hypothesis.  
These techniques applied to proportions, rates and means for one and two populations, paired t-test.  
Pearson's chi-square statistic applied to a variety of problems, e.g. goodness-of-fit, independence in a two-way table, equality of binomial proportions, comparison of related proportions, comparison of rates.  
The Student 't' and Fisher's 'F' probability distributions.  
Comparison of the means of several populations the one-way ANOVA table
5. Finding relationship between variables: Simple and multiple linear regression, least square estimation of the parameters, estimation and interpretation of the coefficients, confidence intervals and testing hypotheses for coefficients, coefficient of correlation, coefficient of determination, using the regression model for prediction, indicator variables, stepwise regression.

**Memo for Program Changes**

To: Allan Arndt (Chair, FSCC)

From: Ian Affleck (Department Head, Math & Stats)

Date: August 21, 2017

**Subject: Program change (Data Analysis Post-baccalaureate certificate)**

1. Summary of changes (select all that apply):

- ☒ Program revision that requires new resources
- ☐ Addition of new course options or deletion or substitution of a required course
- ☐ Change to the majority of courses in an approved program
- ☒ Change to the duration, ~~philosophy, or direction~~ of a program
- ☐ Addition of a new field of specialization, such as a concentration
- ☒ Change in requirements for admission
- ☐ Change in requirements for residency or continuance
- ☐ Change in admission quotas
- ☐ Change which triggers an external review
- ☐ Deletion of a program not included in the Program Discontinuance policy
- ☒ Other – Please specify: Addition of a Co-op Option

2. Rationale for change(s):

- (A) We are introducing a Co-op option to the program. The typical student who pursues this option will take 4 semesters to finish, with a summer work term in the third semester. Students inquiring about the DAC often ask whether there are opportunities to connect with industry. Because this is an applied program which provides skills that are in great demand in industry, it makes sense to provide this opportunity. We have consulted with the Co-op Office at UFV, and they support this initiative.
- (B) We are clarifying in the calendar description of the program that students must have the prerequisite for STAT 106 in order to be admitted into the program. Until now, this requirement has been upheld, but not stated explicitly in the calendar.
- (C) We are meanwhile introducing an alternative to meeting the prerequisite for STAT 106: applicants may instead demonstrate a score of 155 or higher on the Quantitative Reasoning component of the GRE. Students applying from overseas often do not have completed courses on record which met the prerequisite to enter STAT 106, and are not able to write the Mathematics and Statistics Advancement Test. This change to the program prerequisites provides them with a way to be accepted into the program.
- (D) We are introducing COMP 120 as a fourth option to satisfy the computing entry requirement of the program.

(E) Further proposed changes to calendar copy are minor edits to provide more clarity to prospective applicants regarding application procedures and typical program course sequence.

3. If program outcomes are new or substantially changed, explain how they align with the Institutional Learning Outcomes:

4. What consideration has been given to indigenizing the curriculum?

As there were no changes to the academic curricular content, we did not see these changes as an opportunity to indigenize the curriculum.

5. Will additional resources be required? If so, how will these costs be covered?

In order to accommodate the Co-op cohort and the non-Co-op cohort of students each year, we will need to offer one extra section annually of either STAT/COMP 431 or COMP 381. (Non-Co-op students take this capstone course in the summer, while Co-op students will take it in their final Fall semester.) We anticipate that the increase in enrolment in the program, particularly among international students, will more than make up for the cost of providing this extra section annually.

Alternatively, if one cohort is relatively small (6 students or less), their section of STAT/COMP 431 or COMP 381 could be run as directed study, and/or on-line. This might work particularly well for the non-Co-op students, who take this single capstone course in May-June, but may appreciate the option to begin working full-time during that time.

6. How will students be impacted? (Indicate the projected number of students impacted.) Is the change expected to increase/decrease enrolment in the program?

We expect the Co-op option change to increase enrolment in the program. We don't expect enrolment effects due to the other changes being proposed here (entry requirement changes and clarification).

7. Does the number of required core or elective credits from the program-specific discipline change? If so, will this change the total number of courses to be offered within the discipline?

No.

8. Identify any available resources that will be used to accommodate the program changes. (Eg. seats in existing classes, conversion of sections, timetabling changes, deletion of courses, etc.)

To accommodate the two cohorts (Co-op and non-Co-op), we will reserve seats as necessary in the courses of each cohort's typical program plan. For example, in the academic year 2019-2020, both 2019 cohorts begin in September, while student in the 2018 Co-op cohort are finishing in the Fall of 2019. Thus:

- In Fall 2019 courses STAT 271, STAT 271, and COMP 230, seats will be reserved for students in both 2019 cohorts.
- In Fall 2019 courses CIS 385 and (STAT/COMP 431 or COMP 381), seats will be reserved for students remaining from the 2018 Co-op cohort.

- In Fall 2019 course (STAT 330 or STAT 350), seats will be reserved for students arriving in the 2019 non-Co-op cohort and students remaining from the 2018 Co-op cohort.
  - In Winter 2020 courses COMP 331, STAT 315, and (STAT 402, 430 or 470), seats will be reserved for students in both 2019 cohorts.
  - In Winter 2020 course CIS 385, seats will be reserved for students in the non-Co-op 2019 cohort.
  - In Summer 2020 course (STAT/COMP 431 or COMP 381), seats will be reserved for students in the non-Co-op 2019 cohort.
9. Is the number of required or elective courses from other disciplines in the program changing? If so, what is the estimated impact to enrolments in these courses? Provide a memo from the respective dean(s) of the impacted faculty to confirm if budgetary implications have been considered and addressed.
- No.
10. Provide a memo from the program's dean to confirm that budgetary implications of the proposed changes have been considered and will be addressed within the faculty budget.

**CWC comments and responses:**

- It is redundant to list all courses in the calendar twice. Suggest either listing the required courses as currently laid out, or listing them in a typical program plan format, but not both.

*The department does not agree that it is redundant. In the academic requirements listing, there is no indication of the order in which the courses will typically taken, nor the semesters in which they will each be offered. In the typical program plan, not all possibilities are spelled out. We would prefer to keep both. Since many students are making their decision on whether to apply while they are still overseas, we need them to have as much information as possible at hand.*



---

**MEMORANDUM**

---

**TO: UEC, SENATE**

**FROM: Greg Schlitt, Dean of Science (Acting)**

**DATE: 13/09/17**

**RE: Proposed changes to Data Analysis Certificate (DAC)**

---

I have reviewed the proposed changes to the DAC. There are minor budgetary implications entailed by the addition of addition of an extra fall section of certain courses, to support the proposed co-op option. These will be addressed within the faculty budget for '19-'20, the first year affected.

## Data Analysis Post-baccalaureate certificate (DAC) [with Co-op Option](#)

Data analysis is the science of correctly collecting data, assessing it for trustworthiness, extracting information from it, and presenting it in a comprehensible informative way. These skills are vital to institutions such as government, business, or health care where sound decisions must be made based on data and the way it is interpreted.

Students will acquire the skills needed to extract reliable information from large data sets. With carefully designed courses taken in both computing and statistics, students will gain the data-base skills needed to house, extract, manipulate, and maintain data, and will learn the statistical techniques needed to collect data correctly, assess its quality, analyze it, and present the information effectively to decision makers. The industry standard statistical software environments SAS and R will be used throughout.

~~Co-operative Education (Co-op) combines academic studies with relevant work experience. Academic semesters alternate with work terms, providing students work experience that draws upon and reinforces the skills that they have been building in the classroom and lab, as well as opportunities to meet with potential employers in their field of study.~~

### Entrance requirements

1. A Bachelor's degree from a recognized institution.

Note: Students currently earning a university degree may enrol in the courses of the Data Analysis Post-baccalaureate certificate, provided they meet the course-prerequisites. They will be granted credit for having completed the certificate when they have met its requirements, and have fulfilled the requirements of their degree.

2. One of the following programming courses:

- [COMP 120, Computing for the Sciences](#)
- COMP 150, Introduction to Programming

- COMP 152, Introduction to Structured Programming
- COMP 155, Object Oriented Programming (recommended)

3. Applicants must meet the Degree/diploma level English language proficiency requirement. For details on how this requirement may be met, see the [English language proficiency requirement](#) section of the calendar.

4. Applicants must have one of the following:

- [The prerequisite to enter STAT 106. For details on how this prerequisite may be met, see the Course Description for STAT 106 in the calendar;](#)
- [A score of 600 or higher on the Quantitative Reasoning section of the Graduate Records Examinations \(GRE\).](#)

## When to apply

Applications are accepted for entrance to the late Summer (July/August) semester, ~~and should be submitted, with all supporting documents, by January 31 of the year in which the program is to begin,~~ although students whose applications demonstrate completion of STAT 106 (with a B or better) or MATH 270/STAT 270 or an equivalent course will begin their study in the Fall semester. ~~Because there are limited seats available, and applications are processed on a first-come, first-served basis, it is recommended that applications and supporting documents be submitted to UFV as soon as possible - in January of the year in which the program is to begin, at the latest.~~ For application deadlines, see [Specific intake application process](#).

## How to apply

Apply online at [ufv.ca/admissions/admissions/apply](https://ufv.ca/admissions/admissions/apply).

Additional documents required for a complete application:

- Official transcripts (or interim transcripts) of all post-secondary institutions attended showing grade/course achievement as per program entrance requirements. To be considered official, transcripts must be sent directly to UFV from the originating institution; see the [Transfer Credit](#) section for details.

## Fees and additional costs

See the [Fees and Other Costs](#) section.

## Program requirements

Students must complete ten courses, for a total of 31 credits. The certificate can be earned in about one year, beginning in July and ~~ending in~~ finishing at the end of the following June. Those students who begin the program with ~~have~~ credit for STAT 106 (with a B or better) or MATH 270/STAT 270 can earn the certificate in about ten months, beginning in September and ~~ending in~~ finishing at the end of the following June. ~~#~~ For a detailed schedule, see  
Typical Program Plan: DAC below.  
~~September and ending in June.~~

## Co-operative Education Option:

Co-operative Education (Co-op) combines academic studies with relevant work experience. Academic semesters alternate with work terms, providing students work experience that draws upon and reinforces the skills that they have been building in the classroom and lab, as well as opportunities to meet with potential employers in their field of study.

For the Co-op option of the DAC, students must complete ten courses, as well as a four-month Co-op work term in the summer semester directly before their final in the summer semester directly before their final academic semester. The certificate with Co-op option can be earned in about 18 months, beginning in July and finishing in December of the following calendar year. Those students who begin the program with credit for STAT 106 (with a B or better) or MATH 270/STAT 270 can earn the certificate in about sixteen months, beginning in September and finishing in December of the following calendar year. For a detailed schedule, see Typical Program Plan: DAC (Co-op option) below.

**Required courses:**

| Course                      | Title                                                        | Credits |
|-----------------------------|--------------------------------------------------------------|---------|
| STAT 106                    | Statistics I (with a B or better)                            |         |
| <b>or</b> MATH 270/STAT 270 | Introduction to Probability and Statistics                   | 4       |
| STAT 271                    | Introduction to Data Analysis and Statistical Modelling      | 3       |
| STAT 272                    | Statistical Graphics and Languages                           | 3       |
| COMP 230                    | Databases and Database Management Systems (formerly CIS 230) | 3       |
| COMP 331/STAT 331           | Data Quality                                                 | 3       |
| STAT 315                    | Applied Regression Analysis                                  | 3       |

|                             |                                  |   |
|-----------------------------|----------------------------------|---|
| COMP 381                    | Introduction to Machine Learning | 3 |
| <b>or</b> STAT 431/COMP 431 | Data Mining                      | 3 |

**Three courses chosen from the following:**

| Course   | Title                                                      | Credits |
|----------|------------------------------------------------------------|---------|
| STAT 330 | Design of Experiments                                      | 3       |
| STAT 350 | Survey Sampling                                            | 3       |
| STAT 402 | Applied Generalized Linear Models and Survival Analysis    | 3       |
| STAT 430 | Time Series and Forecasting                                | 3       |
| STAT 470 | Applied Multivariate Statistical Analysis                  | 3       |
| COMP 380 | Introduction to Artificial Intelligence (formerly CIS 380) | 3       |

|          |                                             |   |
|----------|---------------------------------------------|---|
| CIS 385  | Project Management                          | 3 |
| COMP 430 | Advanced Database Topics (formerly CIS 430) | 3 |
| COMP 455 | Extreme Computing                           | 3 |

**Co-op work term:** In order to satisfy the requirements of the Data Analysis Post-Baccalaureate certificate (Co-op option), students must complete two four-month semesters of academic study (9 credits each), followed by a four-month Co-op work term (typically during a summer semester), followed by one more semester of academic study (9 credits). Some students will also need to initially begin with a July-August summer semester with STAT 106 (4 credits). Students who complete all of the academic requirements of the DAC, but do not complete the Co-op semester, may still earn a Data Analysis Post-baccalaureate certificate, although it ~~will~~ will not be designated as Co-op option.

For more information about Co-op programs at UFV, please see the Co-operative Education section of the academic calendar.

### Typical Program plan: DAC

#### Semester 1: Late Summer Session (July-August)

- STAT 106

#### Semester 2: Fall (September-December)

- STAT 271,

- STAT 272,
- COMP 230,
- STAT 350 or STAT 330

**Semester 3: Winter (January-April)**

- STAT 315,
- COMP/STAT 331,
- CIS 385,
- STAT 402 or STAT 430 or STAT 470

**Semester 4: Early Summer Session (May-June)**

- STAT/COMP 431 or COMP 381

**Typical Program plan: DAC (Co-op option)**

**Semester 1: Late Summer Session (July-August)**

- STAT 106

**Semester 2: Fall (September-December)**

- STAT 271,
- STAT 272,
- COMP 230

**Semester 3: Winter (January-April)**

- STAT 315,
- COMP/STAT 331,
- STAT 402 or STAT 430 or STAT 470

**Semester 4: Summer (May-August)**

- ~~Co-op Work term~~Co-op Work Term

**Semester 5: Fall (September-December)**

- STAT 350 or STAT 330,
- CIS 385,
- STAT/COMP 431 or COMP 381

## Course repetition

A maximum of three repeated courses are permitted without dean's approval.

## Residency

At least 21 credits toward the certificate (excluding Co-op) must be taken at UFV.

## Undergraduate continuance

Students enrolled in undergraduate courses (courses numbered 100 or above) must maintain an undergraduate Cumulative Grade Point Average (CGPA) of at least 2.00 to remain enrolled in Good Academic Standing at UFV. Students in Good Academic Standing will have no registration limits placed on them. Failure to meet the minimum CGPA requirement will result in restrictions on registration and may eventually lead to academic suspension from undergraduate studies at UFV. Students on Academic Warning or Academic Probation are limited to registering in 10 credits. For further details, see the [Academic standing and undergraduate continuance section](#) of the

academic calendar. Academic standing is governed by UFV's [Undergraduate Continuance policy \(92\)](#).

## Graduation requirements

Students must have a minimum GPA of 2.0 on all ten courses (31 credits) required to complete the program.

To graduate from the data analysis certificate, students must have completed the requirements of a university degree.

## Course listings

For complete details on courses see the [course descriptions](#) section.



## **MEMO**

**To:**

Eric Spalding, Chair, Undergraduate Education Committee (UEC)  
David Johnston, UEC Vice-Chair  
Alistair Hodges, Chair, Graduate Studies Committee (GSC)  
Shelley Canning, GSC Vice-Chair  
Amanda Grimson, UEC Assistant  
Deborah Block, GSC Assistant

CC: Peter Geller, Vice Provost and Vice President Academic

**From:**

Fiona McQuarrie and Bruce Kirkley, Acting Co-ordinators, Office of Program Development and Quality Assurance (PDQA)  
Jennifer MacDonald, Program Development and Quality Assurance Assistant, Office of Program Development and Quality Assurance

Date: October 19 2017

Subject: Clarification of Approval Procedures for New Programs

---

The Office of Program Development and Quality Assurance is writing to request two clarifications of the procedures for approvals of new programs.

In the past year, there have been several situations in which new program proposals have proceeded through the program approval process in ways which we believe contradict the intentions of UFV's approval policies for new programs (Policy 21 and Policy 209). These were situations in which ambiguities in the wording of these policies have led to proposals being presented for approval at later stages of the approval process when approvals from earlier stages in the process had not been completed.

For example, new graduate program proposals have been approved by Senate when courses in the proposed program have not received final approval from the Graduate Studies Committee (GSC). Technically this does not violate the program approval procedures as they are written. However, the goals of UFV's quality assurance processes, including the role of the PDQA office, are not only to facilitate new programs being approved in a timely fashion, but also to ensure that the committees involved in the approval process are assessing proposals that have been appropriately evaluated and approved in previous stages of the process. The ambiguity in some of the current wording of the program approval procedures poses a challenge in achieving these goals.

Additionally, several new program proposals have gone to the Senate Budget Committee (SBC) before they have been approved by either the Undergraduate Education Committee (UEC) or GSC. Again, technically this follows the program approval procedures as they are written. From a quality assurance



## MEMO

perspective, we are concerned about SBC approving a program's budget when UEC or GSC may request curricular or program changes that may impact the financial projections in the program budget.

Currently, the procedures for new undergraduate program approval ([http://www.ufv.ca/media/assets/senate/uec/resources/Program-and-Course-Approval-Procedures-\(June-2016\).pdf](http://www.ufv.ca/media/assets/senate/uec/resources/Program-and-Course-Approval-Procedures-(June-2016).pdf)) and the procedures for new graduate program approval (<http://www.ufv.ca/media/assets/school-of-grad-studies/ProceduresForGradProgram&CourseApproval-rev-Nov2016.pdf>) contain this language:

*Undergraduate:* The program proposal, calendar copy, consultation summary, and the PWG's response to any UEC Screening Subcommittee comments are submitted to UEC for review and recommendation to the Academic Planning & Priorities Committee (APPC). A budgetary analysis for the program is submitted to SBC for review and recommendation to APPC. UEC and SBC recommendations are sent to APPC concurrently.

*Graduate:* The program proposal and responses to comments received in CWC are submitted to GSC for review and recommendation to APPC. A budgetary analysis for the program is submitted to SBC for review and recommendation to APPC. Both GSC and SBC recommendations are sent to APPC concurrently.

We are requesting clarification from UEC and GSC on two points.

- 1) Does "review and recommendation" of a program proposal by UEC or GSC, prior to the proposal proceeding to APPC, mean that UEC or GSC must review and recommend *all* of the components of the proposal (i.e. program proposal, proposed curriculum, and individual course outlines)? Are there situations in which approvals for an individual courses are not required for the entire proposal to proceed further in the approval process (e.g. approvals involving revisions to existing courses that will be part of the proposed new program), in contrast to other situations in which approvals for all individual courses *are* required before the entire proposal can proceed further (e.g. approval for new courses that are core components of a new program proposal, including dual-listed courses that incorporate existing courses)?
- 2) The statement "both [UEC/GSC] and SBC recommendations are sent to APPC concurrently" makes it clear that recommendations from both committees must be completed and sent to APPC before APPC can consider the program proposal for recommendation to Senate. However, this statement is not clear on whether UEC/GSC and SBC can consider the program proposal simultaneously.

In practice, this statement has been interpreted as permitting simultaneous consideration by these committees. However, ensuring that any revisions requested by UEC/GSC that potentially affect the budget are incorporated into submissions to SBC requires that UEC/GSC review



## **MEMO**

program proposals prior to SBC's consideration. Thus, we suggest that new program proposals be submitted to UEC/GSC prior to being submitted to SBC. UEC/GSC would not have to give a final recommendation on the program proposal before SBC considers the proposal, but UEC/GSC would have to discuss the proposal and make recommendations for any amendments to the Program Working Group prior to SBC receiving the proposal. We would appreciate a clarification as to whether this course of action is an appropriate interpretation of the wording of the procedures.

Clarification on these two points would ensure consistent quality control throughout the entire program approval process, and would also greatly facilitate the work of the PDQA office. Thank you.


**ORIGINAL COURSE IMPLEMENTATION DATE:**
**REVISED COURSE IMPLEMENTATION DATE:**
**COURSE TO BE REVIEWED** (six years after UEC approval):

**Course outline form version: 10/27/2017**

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------|--|-----------------------------|--|--------------------------------------------------------------|--|------------------------------|--|----------------------|--|--------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Course Code and Number:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Number of Credits:</b> <a href="#">Course credit policy (105)</a>                                                                                                                                                                                                                                                                                                                                                                |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Course Full Title:</b><br><b>Course Short Title:</b><br><i>(Transcripts only display 30 characters. Departments may recommend a short title if one is needed. If left blank, one will be assigned.)</i>                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Faculty:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Department (or program if no department):</b>                                                                                                                                                                                                                                                                                                                                                                                    |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Calendar Description:</b><br><p>The calendar description should be written in third-person active voice with approximately 40-55 words. Make the description clear, brief, and informative; eliminate redundant words and phrases; don't repeat what's in the course title. Sentence fragments are acceptable. Beginning the description with "this course is" is not necessary.</p> <p>Note: Students with credit for _____ cannot take this course for further credit.</p>                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Prerequisites (or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Pre/corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Antirequisite Courses</b> <i>(Cannot be taken for additional credit.)</i><br>Former course code/number:<br>Cross-listed with:<br>Dual-listed with:<br>Equivalent course(s):<br><i>(If offered in the previous five years, antirequisite course(s) will be included in the calendar description as a note that students with credit for the antirequisite course(s) cannot take this course for further credit.)</i>                                                                                                                                              | <b>Special Topics</b><br>This course is offered with different topics:<br><input type="checkbox"/> No <input type="checkbox"/> Yes <i>(Double-click on box to select it as checked.)</i><br>If yes, different lettered courses may be taken for credit:<br><input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit<br><i>(The specific topic will be recorded when offered.)</i> |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Typical Structure of Instructional Hours</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Lecture/seminar hours</td><td></td></tr> <tr><td>Tutorials/workshops</td><td></td></tr> <tr><td>Supervised laboratory hours</td><td></td></tr> <tr><td>Experiential (field experience, practicum, internship, etc.)</td><td></td></tr> <tr><td>Supervised online activities</td><td></td></tr> <tr><td>Other contact hours:</td><td></td></tr> <tr><td style="text-align: right;"><b>Total hours</b></td><td><b>0</b></td></tr> </table> | Lecture/seminar hours                                                                                                                                                                                                                                                                                                                                                                                                               |  | Tutorials/workshops |  | Supervised laboratory hours |  | Experiential (field experience, practicum, internship, etc.) |  | Supervised online activities |  | Other contact hours: |  | <b>Total hours</b> | <b>0</b> | <b>Transfer Credit</b><br>Transfer credit already exists: (See <a href="http://bctransferguide.ca">bctransferguide.ca</a> )<br><input type="checkbox"/> No <input type="checkbox"/> Yes<br>Submit revised outline for rearticulation:<br><input type="checkbox"/> No <input type="checkbox"/> Yes <i>(If yes, fill in transfer credit form.)</i> |
| Lecture/seminar hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
| Tutorials/workshops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
| Supervised laboratory hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
| Experiential (field experience, practicum, internship, etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
| Supervised online activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
| Other contact hours:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Total hours</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>0</b>                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Grading System</b><br><input type="checkbox"/> Letter Grades <input type="checkbox"/> Credit/No Credit                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Expected Frequency of Course Offerings:</b><br><i>(Every semester, Fall only, annually, every other Fall, etc.)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
| Labs to be scheduled independent of lecture hours: <input type="checkbox"/> No <input type="checkbox"/> Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Department / Program Head or Director:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Date approved:</b>                                                                                                                                                                                                                                                                                                                                                                                                               |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Faculty Council approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Date approved:</b>                                                                                                                                                                                                                                                                                                                                                                                                               |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Dean/Associate VP:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Date approved:</b>                                                                                                                                                                                                                                                                                                                                                                                                               |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Campus-Wide Consultation (CWC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Date of posting:</b>                                                                                                                                                                                                                                                                                                                                                                                                             |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |
| <b>Undergraduate Education Committee (UEC) approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Date of meeting:</b>                                                                                                                                                                                                                                                                                                                                                                                                             |  |                     |  |                             |  |                                                              |  |                              |  |                      |  |                    |          |                                                                                                                                                                                                                                                                                                                                                  |

[COURSE]

University of the Fraser Valley Official Undergraduate Course Outline

Page 2 of 2

**Learning Outcomes:**

Upon successful completion of this course, students will be able to:

- 5-12 measurable outcomes; departments can consult with Teaching and Learning for assistance if needed.

**Prior Learning Assessment and Recognition (PLAR)**

☐ Yes ☐ No, PLAR cannot be awarded for this course because

**Typical Instructional Methods** (*Guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion.*)

**NOTE:** The following sections may vary by instructor. Please see course syllabus available from the instructor.

**Typical Text(s) and Resource Materials** (*If more space is required, download Supplemental Texts and Resource Materials form.*)

| Author (surname, initials) | Title (article, book, journal, etc.) | Current ed.              | Publisher | Year |
|----------------------------|--------------------------------------|--------------------------|-----------|------|
| 1.                         |                                      | <input type="checkbox"/> |           |      |
| 2.                         |                                      | <input type="checkbox"/> |           |      |
| 3.                         |                                      | <input type="checkbox"/> |           |      |
| 4.                         |                                      | <input type="checkbox"/> |           |      |
| 5.                         |                                      | <input type="checkbox"/> |           |      |

**Required Additional Supplies and Materials** (*Software, hardware, tools, specialized clothing, etc.*)

Use this section for supplies and materials for all sections of this course.

**Typical Evaluation Methods and Weighting**

|                |   |              |   |                   |   |            |      |
|----------------|---|--------------|---|-------------------|---|------------|------|
| Final exam:    | % | Assignments: | % | Field experience: | % | Portfolio: | %    |
| Midterm exam:  | % | Project:     | % | Practicum:        | % | Other:     | %    |
| Quizzes/tests: | % | Lab work:    | % | Shop work:        | % | Total:     | 100% |

**Details (if necessary):**

**Typical Course Content and Topics**

Content related to the learning outcomes can be listed by week, unit, or module. Please provide one or more examples for special topics courses. Approximately 50-250 words.



ORIGINAL COURSE IMPLEMENTATION DATE:  
 REVISED COURSE IMPLEMENTATION DATE:  
 COURSE TO BE REVIEWED (six years after UEC approval):  
 Course outline form version: 10/27/2017

## OFFICIAL UNDERGRADUATE CROSS-LISTED OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

|                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                                                                                                                                                                                                                                                                                                                                   |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Course Code and Number:                                                                                                                                                                                                                                                                                                                                                                                                |  | Number of Credits: <a href="#">Course credit policy (105)</a>                                                                                                                                                                                                                                                                                     |  |
| Course Full Title:<br>Course Short Title:<br><i>(Transcripts only display 30 characters. Departments may recommend a short title if one is needed. If left blank, one will be assigned.)</i>                                                                                                                                                                                                                           |  |                                                                                                                                                                                                                                                                                                                                                   |  |
| Faculty:                                                                                                                                                                                                                                                                                                                                                                                                               |  | Department (or program if no department):                                                                                                                                                                                                                                                                                                         |  |
| Official Course Outline:<br>This is a cross-listed course. Please refer to _____ for the official course outline.                                                                                                                                                                                                                                                                                                      |  |                                                                                                                                                                                                                                                                                                                                                   |  |
| Calendar Description:<br>The calendar description should be identical to that of the official course outline.<br><br>Note: This course is offered as _____ and _____. Students may take only one of these for credit.<br>Note: Students with credit for _____ cannot take this course for further credit.                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                   |  |
| Prerequisites (or NONE):                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                                                                                                                                                                                                                                                                                   |  |
| Corequisites (if applicable, or NONE):                                                                                                                                                                                                                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                                                                                                   |  |
| Pre/corequisites (if applicable, or NONE):                                                                                                                                                                                                                                                                                                                                                                             |  |                                                                                                                                                                                                                                                                                                                                                   |  |
| <b>Antirequisite Courses</b> <i>(Cannot be taken for additional credit.)</i><br>Former course code/number:<br>Cross-listed with:<br>Dual-listed with:<br>Equivalent course(s):<br><i>(If offered in the previous five years, antirequisite course(s) will be included in the calendar description as a note that students with credit for the antirequisite course(s) cannot take this course for further credit.)</i> |  | <b>Transfer Credit</b><br>Transfer credit already exists: (See <a href="http://bctransferguide.ca">bctransferguide.ca</a> .)<br><input type="checkbox"/> No <input type="checkbox"/> Yes<br>Submit revised outline for rearticulation:<br><input type="checkbox"/> No <input type="checkbox"/> Yes <i>(If yes, fill in transfer credit form.)</i> |  |
| Department / Program Head or Director:                                                                                                                                                                                                                                                                                                                                                                                 |  | Date approved:                                                                                                                                                                                                                                                                                                                                    |  |
| Faculty Council approval                                                                                                                                                                                                                                                                                                                                                                                               |  | Date approved:                                                                                                                                                                                                                                                                                                                                    |  |
| Dean/Associate VP:                                                                                                                                                                                                                                                                                                                                                                                                     |  | Date approved:                                                                                                                                                                                                                                                                                                                                    |  |
| Campus-Wide Consultation (CWC)                                                                                                                                                                                                                                                                                                                                                                                         |  | Date of posting:                                                                                                                                                                                                                                                                                                                                  |  |
| Undergraduate Education Committee (UEC) approval                                                                                                                                                                                                                                                                                                                                                                       |  | Date of meeting:                                                                                                                                                                                                                                                                                                                                  |  |