



**COURSE OUTLINE**

1. **Course:** SCIE 601, Theory and Practice of University Teaching and Learning in STEM - Fall 2019

Lecture 01: T 12:30 - 15:20 in TI STUDIOB

Instructor	Email	Phone	Office	Hours
Dr Isabelle Barrette-Ng	mibarret@ucalgary.ca	403 220-6240	BI 430A	Please use the following link to book an appointment with me: <a href="https://isabellebarretteng.youcanbook.me">https://isabellebarretteng.youcanbook.me</a>

**Course Site:**

D2L: SCIE 601 L01-(Fall 2019)-Theory and Practice of University Teaching and Learning in STEM

**Note:** Students must use their U of C account for all course correspondence.

2. **Requisites:**

See section [3.5.C](#) in the Faculty of Science section of the online Calendar.

Prerequisite(s) Department Consent Required. : Admission to a MSc or PhD program in the Faculty of Science and consent of the instructor. NOT INCLUDED IN GPA

3. **Grading:**

The University policy on grading and related matters is described in [F.1](#) and [F.2](#) of the online University Calendar. This is a PASS/FAIL course. In determining the overall grade in the course the following weights will be used:

Component(s)	Weighting %
Learner-led assigned workshop	25%
Teaching philosophy statement	30%
Written reflections	20%
SoTL literature assignment	5%
Microteaching session	10%
Course and faculty mentor selection	10%

4. **Missed Components Of Term Work:**

In the event that a student misses the midterm or any course work due to illness, supporting documentation, such as a medical note or a statutory declaration will be required (see [Section M.1](#); for more information regarding the use of statutory declaration/medical notes, see [FAQ](#)). Absences must be reported within 48 hrs.

The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in [Section 3.6](#). It is the student's responsibility to familiarize themselves with these regulations. See also [Section E.3](#) of the University Calendar.

5. **Scheduled Out-of-Class Activities:**

There are no scheduled out of class activities for this course.

6. **Course Materials:**

Links to all readings will be provided via our D2L site.

7. **Examination Policy:**

There are no examinations in this pass/fail course.

Final standing is based on successfully completing the assignments described in the "Grading" section.

Students should also read the Calendar, [Section G](#), on Examinations.

## 8. **Approved Mandatory And Optional Course Supplemental Fees:**

There are no mandatory or optional course supplemental fees for this course.

## 9. **Writing Across The Curriculum Statement:**

For all components of the course, in any written work, the quality of the student's writing (language, spelling, grammar, presentation etc.) can be a factor in the evaluation of the work. See also Section [E.2](#) of the University Calendar.

## 10. **Human Studies Statement:**

If you agree, your course work may be used for research purposes. Your responses will remain anonymous and confidential. Grouped data (no individual responses) may be used in academic presentations and publications. Participation in such research is voluntary and will not influence grades in this course. Students' signed consent forms will be withheld from instructors until after final grades are submitted. More information will be provided at the time student participation is requested.

See also [Section E.5](#) of the University Calendar.

## 11. **Reappraisal Of Grades:**

A student wishing a reappraisal, should first attempt to review the graded work with the Course coordinator/instructor or department offering the course. Students with sufficient academic grounds may request a reappraisal. Non-academic grounds are not relevant for grade reappraisals. Students should be aware that the grade being reappraised may be raised, lowered or remain the same. See [Section I.3](#) of the University Calendar.

- a. **Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **10 business days** of either being notified about the mark, or of the item's return to the class. If the student is not satisfied with the outcome, the student shall immediately submit the Reappraisal of Graded Term work form to the department in which the course is offered. The department will arrange for a re-assessment of the work if, and only if, the student has sufficient academic grounds. See sections [I.1](#) and [I.2](#) of the University Calendar
- b. **Final Exam:** The student shall submit the request to Enrolment Services. See [Section I.3](#) of the University Calendar.

## 12. **Other Important Information For Students:**

- a. **Mental Health** The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, [Mental Health Services Website](#)) and the Campus Mental Health Strategy website ([Mental Health](#)).
- b. **SU Wellness Center:** The Students Union Wellness Centre provides health and wellness support for students including information and counselling on physical health, mental health and nutrition. For more information, see [www.ucalgary.ca/wellnesscentre](http://www.ucalgary.ca/wellnesscentre) or call [403-210-9355](tel:403-210-9355).
- c. **Sexual Violence:** The University of Calgary is committed to fostering a safe, productive learning environment. The Sexual Violence Policy (<https://www.ucalgary.ca/policies/files/policies/sexual-violence-policy.pdf>) is a fundamental element in creating and sustaining a safer campus environment for all community members. We understand that sexual violence can undermine students' academic success and we encourage students who have experienced some form of sexual misconduct to talk to someone about their experience, so they can get the support they need. The Sexual Violence Support Advocate, Carla Bertsch, can provide confidential support and information regarding sexual violence to all members of the university community. Carla can be reached by email ([svsa@ucalgary.ca](mailto:svsa@ucalgary.ca)) or phone at [403-220-2208](tel:403-220-2208).
- d. **Misconduct:** Academic misconduct (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under [Section K](#). Student Misconduct to inform yourself of definitions, processes and penalties. Examples of academic misconduct may include: submitting or presenting work as if it were the student's own work when it is not; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; collaborating in whole or in part without prior agreement of the instructor; borrowing experimental values from others without the instructor's approval; falsification/ fabrication of experimental values in a report. **These are only examples.**

- e. **Assembly Points:** In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on [assembly points](#).
- f. **Academic Accommodation Policy:** Students needing an accommodation because of a disability or medical condition should contact Student Accessibility Services in accordance with the procedure for accommodations for students with disabilities available at [procedure-for-accommodations-for-students-with-disabilities.pdf](#).
- Students needing an accommodation in relation to their coursework or to fulfill requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Program Director of the Natural Sciences Program, Dr. Edwin Cey by email [ntscdirector@ucalgary.ca](mailto:ntscdirector@ucalgary.ca) or phone 403 220-8393. Religious accommodation requests relating to class, test or exam scheduling or absences must be submitted no later than **14 days** prior to the date in question. See [Section E.4](#) of the University Calendar.
- g. **Safewalk:** Campus Security will escort individuals day or night (See the [Campus Safewalk](#) website). Call [403-220-5333](tel:403-220-5333) for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.
- h. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). Students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information, see [Legal Services](#) website.
- i. **Student Union Information:** [VP Academic](#), Phone: [403-220-3911](tel:403-220-3911) Email: [suvpaca@ucalgary.ca](mailto:suvpaca@ucalgary.ca). SU Faculty Rep., Phone: [403-220-3913](tel:403-220-3913) Email: [sciencerep@su.ucalgary.ca](mailto:sciencerep@su.ucalgary.ca). [Student Ombudsman](#), Email: [ombuds@ucalgary.ca](mailto:ombuds@ucalgary.ca).
- j. **Internet and Electronic Device Information:** Unless instructed otherwise, cell phones should be turned off during class. All communication with other individuals via laptop, tablet, smart phone or other device is prohibited during class unless specifically permitted by the instructor. Students that violate this policy may be asked to leave the classroom. Repeated violations may result in a charge of misconduct.
- k. **Surveys:** At the University of Calgary, feedback through the Universal Student Ratings of Instruction ([USRI](#)) survey and the Faculty of Science Teaching Feedback form provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses. Your responses make a difference - please participate in these surveys.
- l. **Copyright of Course Materials:** All course materials (including those posted on the course D2L site, a course website, or used in any teaching activity such as (but not limited to) examinations, quizzes, assignments, laboratory manuals, lecture slides or lecture materials and other course notes) are protected by law. These materials are for the sole use of students registered in this course and must not be redistributed. Sharing these materials with anyone else would be a breach of the terms and conditions governing student access to D2L, as well as a violation of the copyright in these materials, and may be pursued as a case of student academic or [non-academic misconduct](#), in addition to any other remedies available at law.

### **OVERVIEW OF THE COURSE:**

In this course, we will explore and critically evaluate current educational theory and practice relating to university teaching and learning in STEM (science, technology, engineering and mathematics). You will be asked to critically evaluate your teaching beliefs and broaden your knowledge and skills by participating in classroom discussions and microteaching opportunities.

### **COURSE OUTCOMES:**

After completing this course, you should be able to:

1. Identify and describe the key elements essential for effective teaching and learning.
2. Find, evaluate and apply current research in the scholarship of teaching and learning to university teaching and learning in STEM.
3. Practice and develop a broad range of teaching skills.
4. Provide constructive peer feedback on teaching and learning practices, both in written and oral formats.
5. Incorporate constructive peer feedback on teaching and learning practices, both in written and oral formats.
6. Formulate a statement of teaching philosophy that reflects essential values and beliefs about teaching and

learning.

7. Design a lesson informed by current educational approaches for a course in your discipline.

## **LEARNING PROCESS:**

To enhance your learning experience in this course, each session has been designed to follow a seminar format. Each session will examine a specific topic in a highly interactive manner, with time for hands-on work so that we can support you in the development of an evidence-based teaching practice. The sessions will be led by a facilitator from the Faculty of Science, the Taylor Institute for Teaching and Learning, the Werklund School of Education, and Libraries and Cultural Resources often working in combination with members of the class.

To make the most of this course, your participation in all sessions is critical. If you anticipate missing more than 1 session, please speak with the Program Director in advance.

## **COURSE COMPONENTS:**

### **A. STUDENT-LED ASSIGNED READING WORKSHOPS**

Over the course of the semester, you will be asked to prepare and lead a 60-minute workshop during one of the class sessions in collaboration with four or five of your peers. The workshop you will prepare and lead will be based on one or more assigned readings. To prepare for your workshop, you will be expected to meet with the instructor(s) of that session 2-3 weeks prior to the workshop. You will be asked to select your peers and topic during the first week of class. Student-led workshops will be held on the following dates during the Fall 2019 semester: October 1, October 8, October 15, October 22, October 29, November 19, and November 26.

### **B. SoTL LITERATURE ASSIGNMENT**

To help you build an evidence-based teaching practice, you will be introduced to peer-reviewed literature on teaching and learning in a session led by science librarian Jennifer Lee on September 17. Following this session, you will be asked to complete a short assignment that will provide you with practice accessing and analysing peer-reviewed SoTL literature.

### **C. WRITTEN REFLECTIONS**

Building a reflective practice is important for giving your teaching practice meaning, direction and purpose. To help you develop a reflective teaching practice, Dr. Barrette-Ng will lead a session on September 24 on this topic. Following that session, you will be asked to complete four 200-word written reflections on course readings throughout the semester. These three written reflections will be due on the following dates: September 30, October 15, October 28, and December 7. Each must be submitted through our D2L course website.

### **D. TEACHING PHILOSOPHY STATEMENT**

You will be asked to develop and draft a teaching philosophy statement following the session on November 5. A teaching philosophy statement consists of a description of your beliefs and views about teaching and learning. It also includes examples that illustrate how you place these beliefs and views into practice. A teaching philosophy statement often forms part of a teaching portfolio, which is usually required in applications for faculty positions. Your teaching philosophy statement will be due at the start of class on December 3.

### **E. MICROTEACHING SESSIONS**

In groups of 2-3, you will be asked to prepare and deliver a 10-minute mini-lessons which uses an active learning strategy in the final week of the semester. Further details on topic selection and format will be given to you later in the semester.

Following your mini-lesson, you will receive both written and verbal feedback from your peers. Further details on how feedback will be provided will be made available later this semester.

### **F. COURSE AND FACULTY MENTOR SELECTION**

Completion of the SAGES Program depends on the completion of a practicum experience, where you get the opportunity to work with a faculty mentor to design and deliver a unit in a course in your discipline. To help you frame your project as well as begin to establish a solid mentor-mentee relationship, you will be asked to record your selection of faculty mentor and course by October 31 with the Program Director. Mentor and course selection will be discussed in further detail later this semester.

DATE	TOPICS	Facilitator(s)	Student-led workshop
Sept 10	<b>Welcome to SAGES and SCIE 601!</b> Introduction to teaching and learning in higher education in STEM Topic selection for student-led workshops on assigned readings	Dr. Barrette-Ng G. McVicar	N/A
Sept 17	<b>Current research on student learning in STEM</b>	Dr. Barrette-Ng J. Lee	N/A
<b>SoTL literature assignment due by 9 AM on Monday September 23</b>			
Sept 24	<b>The habits of the reflective practitioner</b>	Dr. Barrette-Ng	N/A
<b>Written reflection #1 due by 9 AM on Monday September 30</b>			
Oct 1	<b>Course design</b> (Constructive alignment, writing learning outcomes, planning student assessments and learning activities)	P. Kelly	yes
Oct 8	<b>Teaching problem solving</b>	Dr. Barrette-Ng	yes
<b>Written reflection #2 due by 9 AM on Tuesday October 15</b>			
Oct 15	<b>Developing effective approaches for assessment</b>	B. Paris	yes
Oct 22	<b>Engaging and interacting with learners</b>	Dr. Summers	yes
<b>Written reflection #3 due by 9 AM on Monday October 28</b>			
Oct 29	<b>Specific teaching methods:</b> active learning, problem-based learning, team-based learning, case-based learning	Dr. Lock	yes
<b>Practicum course and mentor selection due by 5 PM on Thursday October 31</b>			
Nov 5	<b>Writing a teaching philosophy statement and preparing for a teaching portfolio</b>	Dr. Berenson	N/A
<b>No classes - reading week</b>			
Nov 19	<b>Assessing the effectiveness of different teaching approaches</b>	Dr. Jeffs Dr. Barrette-Ng	yes
Nov 26	<b>Effective use of technology for teaching</b>	Dr. Lock	yes
Dec 3	<b>Microteaching session</b>	Dr. Barrette-Ng	N/A
<b>Teaching philosophy statement due at the start of class Dec 3</b>			
<b>Written reflection #4 due at by 9 AM on Dec 9</b>			

Department Approval:

Electronically Approved

Date: 2019-09-11 11:54

Associate Dean's Approval for alternate final examination arrangements or out of regular class-time activity:

Electronically Approved

Date: 2019-09-11 12:08