1. Course: SCIE 603 – STEM Teaching Development

   Course coordinators: Dr. I. Barrette-Ng
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   USC Specialized Programs Office
   EEEL 426 (403)220-8600 sciemail@ucalgary.ca

2. Prerequisites: SCIE 601 and consent of the Program Director.

3. Grading: The University policy on grading and related matters is described sections F.1 and F.2 of the online University Calendar. This is a PASS/FAIL course. In determining whether or not a student has successfully passed the course, the following criteria will be used:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Lesson plan</td>
<td>15%</td>
</tr>
<tr>
<td>Teaching self-reflection</td>
<td>25%</td>
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<tr>
<td>Peer observation and self-reflection</td>
<td>25%</td>
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<tr>
<td>Poster</td>
<td>35%</td>
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   Regular attendance and a passing grade is required in each component of the course for credit.

4. Missed Components of Term Work: 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 himself/herself with these regulations. See also Section E.6 of the University Calendar.

5. Scheduled out-of-class activities: There are no scheduled out-of-class activities for this course.

6. Course Materials: Any required course readings will be made available through D2L either as a downloadable file or as a link accessible via the university Library.

7. Examination Policy: There are no examinations scheduled in this course.

8. Writing across the curriculum statement: In this course, the quality of the student’s writing in assigned work will be a factor in the evaluation of that work. See also Section E.2 of the University Calendar.

9. 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.

10. 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 15 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.
11. 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 or call 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) or phone at 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 at 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 for assistance. Use any campus phone, emergency phone or the yellow phones located near most parking lot pay stations.

(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 Email: suvpaca@ucalgary.ca. SU Faculty Rep., Phone: 403-220-3913 Email: sciencerep@su.ucalgary.ca. Student Ombudsman, Email: suvpaca@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.

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**Program Approval:**

Approved by the Program Director (E. Cey)  
Date: January 17, 2019

**Associate Dean’s Approval for alternate final exam arrangements:**

Approved by the Associate Dean (N. Chibry)  
Date: January 21, 2019
OVERVIEW OF THE COURSE:

In this course, you will be asked to select an undergraduate course in your discipline and work with a faculty mentor to redesign, teach and assess one unit in that course. A “unit” is defined as the equivalent of three 50-minute lectures, or one 3-hour laboratory session or tutorial. Through your practicum, you will explore course and curriculum design elements by producing a detailed lesson plan, and a strategy for assessment and evaluation of the success of teaching the unit. You will be asked to critically reflect on your experience in this course by submitting reflective essays and participating in group discussions. Final experiences will be shared through a symposium poster presentation.

COURSE OUTCOMES:

After completing this course, you should be able to:

1. Produce a detailed lesson plan informed by current educational approaches for a course in your discipline, with clearly articulated learning outcomes and learning activities that are aligned with the learning outcomes.
2. Articulate a SoTL question that you could pursue related to your teaching unit.
3. Provide constructive peer feedback on teaching and learning practices, both in written and oral formats.
4. Incorporate constructive peer feedback on teaching and learning practices, both in written and oral formats.
5. Prepare and present a poster that describes your practicum and the experiences you gained by completing it.

COURSE COMPONENTS:

A. LESSON PLAN and TEACHING EXPERIENCE

The primary course component is a 1-unit teaching practicum in a course of your choice (three 50-minute lectures, or one 3-hour laboratory session or tutorial). In consultation with your faculty mentor, the instructor of record for that course, you will use what you learned in SCIE 601 about lesson planning to create a complete lesson plan for your teaching practicum. This plan, due 2 weeks prior to your practicum dates, will include:

- A complete list of learning goals, learning activities aligned with the learning goals, and a timeline for your teaching practicum.
- An outline of formative assessments used during your teaching practicum.
- A proposed summative assessment item that could be used to evaluate the level of student mastery of your learning goal(s). This assessment task will be annotated with notes on what you expect mastery to look like.
- A prompt for observer feedback, to solicit targeted feedback from peer and instructors observing your practicum.
- A draft SoTL question that you could pursue related to your lesson(s). Describe what you might be interested in investigating about these students during this experience. How might you propose to assess your teaching during your practicum?

B. TEACHING SELF-REFLECTION

Following the completion of your in-class teaching session(s), you will organize and facilitate a debriefing meeting with the observers in your classroom, including a member of the SAGES team, your host/mentor instructor, and one of your peers in the SAGES cohort. Based on their observations and your own reflections, you will write a reflection on your teaching experience, the observations that led you to your perceptions, and the impact of this experience on your teaching practice.

C. PEER OBSERVATION and SELF-REFLECTION

You will sit-in as an observer in one of your peers teaching sessions, and write a reflection on observations and experiences you had as an observer and how these impacted your own teaching practice and philosophy.

D. POSTER

At the SAGES celebration of teaching and learning in June, you will present a digital poster describing the unit you redesigned, taught and assessed. Your poster will highlight both the practical and scholarly results of your practicum experience, including:

- What course did you teach, and what learning outcomes were you targeting?
- Who were your students (i.e., majors, non-majors, year, etc.)?
- What question were you seeking to answer?
- What did you discover?
- What type of data did you collect?