

# UNIVERSITY OF CALGARY FACULTY OF SCIENCE NATURAL SCIENCES PROGRAM COURSE OUTLINE

1. Course: SCIE 529, Project Course in Sustainable Energy, Environment and Economy -- Fall 2018

Instructor Name	Instructor Name Email		Office	Hours	
L01: ( M 15:00 - 17:	:45 in TRB 102)				
Jason Donev	jmdonev@ucalgary.ca	403-210-6343	SA 101A	Monday 10-11:30, Tuesday 13:00-14:30, Friday 14:00-15:30	

#### Course Site:

D2L: SCIE 529 L01-(Fall 2018)-Project Course in Sustainable Energy, Environment and Economy

#### **Natural Sciences Program:**

Office: EEEL 445 Phone: 403 220-8600 Email: usc@ucalgary.ca

#### Note:

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

#### 2. Requisites:

See section <u>3.5.C</u> in the Faculty of Science section of the online Calendar.

**Prerequisite(s)**: 75 units (12.5 full-course equivalents) and admission to the Energy and the Environment Specialization, the Energy Management Concentration or the Energy Science Concentration.

#### 3. Grading:

The University policy on grading and related matters is described in <u>F.1</u> and <u>F.2</u> of the online University Calendar. In determining the overall grade in the course the following weights will be used:

Course Component	Weighting %
Peer review	5%
Final Project	95%
Broken out as:	
Team contract	1%
Elevator pitch	2%
List of sources	2%
Background information presentation	30%
Final Paper	30%
Poster Presentations	30%

Each piece of work (reports, assignments, quizzes, midterm exam(s) or final examination) submitted by the student will be assigned a grade. The student's grade for each component listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade.

The conversion between a percentage grade and letter grade is as follows.

	<b>A</b> +	Α	A-	B+	В	В-	C+	С	C-	D+	D
Minimum % Required	95 %	90 %	87 %	84%	81%	78 %	75 %	72%	69%	66 %	60 %

This course has a non-registrar scheduled final component.

#### 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 <u>Section 3.6</u>. It is the student's responsibility to familiarize himself/herself/themself with these regulations. See also <u>Section E.3</u> of the University Calendar.

#### 5. Scheduled out-of-class activities:

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

#### 6. Course Materials:

## 7. Examination Policy:

No aids are allowed on tests or examinations.

Students should also read the Calendar, <u>Section G</u>, 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  $\underline{E.2}$  of the University Calendar.

#### 10. Human studies statement:

Students will not participate as subjects or researchers in human studies.

See also <u>Section E.5</u> 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. <u>Non-academic grounds are not relevant for grade reappraisals</u>. Students should be aware that the grade being reappraised may be raised, lowered or remain the same. See <u>Section I.3</u> of the University Calendar.

- 1. **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 reassessment of the work if, and only if, the student has sufficient academic grounds.See sections <u>I.1</u> and <u>I.2</u> of the University Calendar
- 2. **Final Exam:**The student shall submit the request to Enrolment Services. See <u>Section I.3</u> 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, <u>Mental Health Services Website</u>) and the Campus Mental Health Strategy website (<u>Mental Health</u>).
- 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 <u>www.ucalgary.ca/wellnesscentre</u> or call 403-210-9355.
- c. Sexual Violence: The University of Calgary is committed to fostering a safe, productive learning environment. T h e Sexual Violence Policy (<u>https://www.ucalgary.ca/policies/files/policies/sexual-violence-policy.pdf</u>) 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 (<a href="styses">styses</a> or phone at <a href="styses">403-220-2208</a>.

- 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 <u>Section K</u>. 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 <u>assembly points</u>.
- 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 <u>procedure-for-accommodations-for-students-with-disabilities.pdf</u>.

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 ecey@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 <u>Section E.4</u> of the University Calendar.

- g. Safewalk: Campus Security will escort individuals day or night (See the <u>Campus Safewalk</u> website). Call <u>403-220-5333</u> 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 <u>Legal Services</u> website.
- i. **Student Union Information:** <u>VP Academic</u>, Phone: <u>403-220-3911</u> Email: <u>suvpaca@ucalgary.ca</u>. SU Faculty Rep., Phone: <u>403-220-3913</u> Email: <u>sciencerep@su.ucalgary.ca</u>. Student Ombudsman, Email: <u>suvpaca@ucalgary.ca</u>.
- 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 (<u>USRI</u>) 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.

# Science 529: Project Course in Sustainable Energy, Environment and Economy Course Description

This is a one-term project course on sustainable energy providing students with two opportunities. First, students will explore a specific topic in sustainable energy through in-depth research, presentation, and critical discussion of ideas among peers with similar interests. Second, students will meet and interact with professionals actively involved in fields related to their specific topics. Through these experiences, students will become specialized in a specific area, and make connections with practitioners in this industry.

#### **Classroom Expectations**

This is a senior capstone course. We expect everyone to participate in classroom discussions, and respect

classmates, which include not using mp3 players, or cell phones in class. Laptops are acceptable for taking notes and doing work, as long as that's what they're being used for. We also expect you to make and keep appointments with the course instructor. If you fall behind or have trouble, we expect you to come to us and then we can figure out what can be done about it. Projects and group dynamics can be challenging, the earlier in the course you approach us the more help we can be.

### Course content

The entire class is based around a large capstone group project. The subject matter of your group project must pertain to sustainable energy. Your group and the topic are of your choosing, with approval of the instructor. You will research the topic and create an informed argument about some aspect of the material and present this argument to the class. You will have an oral proposal, a written proposal, a final poster presentation and a final written presentation. All group members will contribute to all presentations, oral and written. You'll sign a group contract at the beginning of the term, explaining how you intend to contribute.

This project will be researched at the library and you may discuss your project with professionals in the field. A significant part of your mark will be determined by how familiar you are with your subject matter.

Proofread everything that you turn in for evaluation. Especially proofread the work of other members of your group. There will also be two major presentations; good presentation skills will be discussed and expected of the students.

Peer Review is an important aspect of science and engineering. You will be expected to provide feedback to your peers on their written work. Listening, learning, and processing of technical information in presentations are important skills. You'll be expected to ask questions of other groups who present in class.

All assignments, including your presentation slides, should be submitted on Desire2Learn. Turning in work late will have a penalty associated with it, 10% per day. If extraordinary circumstances come up, contact your instructor promptly to discuss an extension.

#### <u>Assessments</u>

1. Peer evaluation Due: Ongoing

Evaluating peer's work is important in technical fields. You must be able to read documents on subject matter that are related to, but not necessarily in your field of expertise. You will be given papers and websites from other groups to read through and comment on.

Assessment Criteria: Professionalism and thoughtfulness of comments

2. Final Project (95% of the mark of the course)

a) Contract Due: September 10th, 2018 Value 1%

Creating an agreement that a team can stick to is essential to success. A blank contract will be provided.

Assessment Criteria: Appropriate answers to questions in document, punctuality.

b) Elevator Pitch Due: September 17th, 2018 Value 2%

The initial proposal presentation will be 30-90 seconds per person. The topic will be presented, with some ideas as to why the topic is important. The preliminary research steps will be presented.

Assessment Criteria: Research idea is well formed, concise presentation of topic and first steps.

c) Preliminary References Due: September 23rd Value: 3%

In order to ensure that everyone is finding enough information on their topic, a preliminary reference list will be submitted. There will be at least 10 references, with at least 3 being background references and at least 5 being detailed references.

Value: 5%

d) Information talks Due: October 15th-29th

This will be a 20 minute presentation to give your classmates a more solid background in your topic.

Assessment Criteria: Effective presentation of ideas

e) Poster Presentation Due: Nov. 19th, 26th Value: 30%

You will present a poster to your classmates for peer evaluation on November 19th. You will have the opportunity to make changes first for the in class poster presentation. You can then make further changes as needed for the final poster presentation on Nov 26th. Be aware that most places need 48 hours to print a poster. Your TA and instructor will grade your poster, people at the poster session will grade your poster presentation.

Value: 30%

Assessment Criteria: Knowledge of material, professionalism of poster, how questions are handled, how well the advocacy is handled.

f) Final Paper Due Dec. 3rd, Dec 9th Value: 30%

The final paper will be no more than 25 pages, double spaced 10 pt font without images. A template will be provided. This will include a 2 page executive summary. The paper (and summary) will initially be turned in on Dec 3rd for peer evaluation from other groups. Proofread your work before turning it into for peer evaluation. You will make corrections and turn in the final paper Dec 9th.

Assessment Criteria: Professionalism of writing, depth and knowledge of subject matter, how well the advocacy is handled.

Department Approval:

Electronically Approved

Date: 2018-09-04 09:41

Associate Dean's Approval for out of regular class-time Electronic activity:

Electronically Approved

Date: 2018-09-04 11:33

## **Course Outcomes**

- Critically analyze current research and developments in the area of sustainable energy
- Advocate a solution related to the area of sustainable energy by researching all aspects of the topic to form and defending a stance on how the industry could best move forward on issues related to the topic
- Communicate ideas and concepts effectively in both written and oral presentations to both peers and the general public.
- Collaborate with peers to complete a project and presentation on their topic in sustainable energy
- Provide effective feedback to peers.