

Special Topics in Environmental Design: “The Fuss Over Fracking”

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Thematic inquiry and design related to urban design, architecture, environmental science, industrial design and planning.

Introduction

Environmental Issues are in the headlines almost every day, and they engender strong and passionate feelings. This is a course about how to intelligently analyze a complex topic, by looking at it from different perspectives and doing appropriate research.

Our chosen issue is hydraulic fracturing (“Fracking”) -- an engineering technique that has brought thousands of people into the streets to protest, but that is also used every day in many places with apparent safety.

Objectives:

1. To appreciate the various perspectives at play in an important and timely environmental issue.
2. To acquire a basic knowledge of the types of expertise (scientific, engineering, political, communications, health, etc.) relevant to the issue.
3. To understand how an interdisciplinary approach can be used to better understand complex problems.
4. To help students develop their research and academic writing skills.
5. To explore possible career paths and further study in environmental fields

Teaching Approach

This course will be offered online using the University of Calgary Desire2Learn (D2L) platform, which is where all course documents will be located. All assignments are to be submitted electronically through the D2L system.

In exceptional circumstances, such as difficulty in accessing course material, students are asked to email the instructor at keenan@ucalgary.ca. Those emails should be sent from the student's official (University of Calgary assigned) email account. However, in general, all interaction will be on the D2L platform.

Part of the philosophy behind this course is "peer learning". This will be implemented through weekly discussion board entries, and a component of the final grade will be based on this.

Assignments related to each major topic area will be due on a bi-weekly basis (see schedule below.) Learners will need access to the Internet and a computer capable of playing video and audio content. Suitable facilities are available on campus (e.g. at the TFDL) though, of course, your own computer, tablet, etc. can be used.

Content: Topic Areas & Detailed Class Schedule (subject to change)

"Course week" starts each Wednesday and ends the following Wednesday at 2359. To be considered on time please submit your assignment by that time on the due date.

There will be no formal class activity from Feb 14-21, 2016 as it is Reading Week. The assignment due dates are planned so no assignment will be due in that period.

Late assignments will be accepted up until the Final Deadline (April 13, 2016 @2359) but may be penalized for lateness as shown below. Please try to keep up!

Course topics are subject to minor changes but assignment deadlines will remain as shown.

Week	Start Date	Topic	Assignment	Asst. due
1	Jan 13	Intro to course & What is Fracking?	Asst 1	
2	Jan 20	The Engineering and Geophysics of Fracking	Asst 1	Jan 27 @2359

3	Jan 27	Fracking in the News	Asst 2	
4	Feb 3	Fracking Politics in Canada and the US	Asst 2	Feb 10 @2359
5	Feb 10	Fracking and the Environment	Asst 3	
6	Feb 17	(Reading Week)		
7	Feb 24	Evaluating Environmental Evidence	Asst 3	Mar 2 @2359
8	Mar 2	The Chemistry of Fracking	Asst 4	
9	Mar 9	Fracking and Health	Asst 4	Mar 16 @2359
10	Mar 16	Fracking Economics	Asst 5	
11	Mar 23	Understanding Water	Asst 5	Mar 30 @2359
12	Mar 30	Creating an Informed Opinion about Fracking	Asst 6	
13	Apr 6	The Future	Asst 6	Apr 13 @2359
	Final Deadline			Apr 13 @2359

Means of Evaluation

The course evaluation will be based on assignments and online participation. Students will complete six written assignments and submit them electronically as shown on the schedule above. Late assignments will be accepted up until the Final Deadline of 2359, April 13, 2016, but may be penalized up to one full grade (e.g. A to B).

Class participation grade will be evaluated based on the quality and quantity of online participation in the weekly D2L discussion groups. To obtain full marks in the participation component, students should make at least one timely, relevant, interesting and non-trivial posting each week

Grades and comments will be returned online through the D2L system.

Weighting

6 individual assignments @ 15% each for a total of	90%
Class participation over the term	10%
Total	100%

Final grades will be reported as letter grades, with the final grade calculated according to the 4-point range. Assignment and participation grades will be also reported as letter grades (A+, A, A- etc.) Percentage grading will not be used in this course. It is not necessary to pass any particular component to pass the course as a whole.

There is no final examination.

Grading System

According to the University of Calgary calendar, (section F2. Undergraduate Grading System) "University policy requires that students' grades in a course are reported according to the grading scheme of the faculty giving the course (regardless of the faculty in which a student is registered) and are so recorded on students' transcripts of record."

To prevent any confusion, percentage grades will not be used at all in this course. All of your assignments and your class participation will be evaluated and receive a letter grade and those will be averaged according to the weighting shown above.

The following chart shows the interpretation of grades currently in use by the Faculty of Environmental Design.

Grade	Grade Point Value	4-Point Range	Percent	Description
A+	4.00	4.00	95-100	Outstanding - evaluated by instructor
A	4.00	3.85-4.00	90-94.99	Excellent - superior performance showing comprehensive understanding of the subject matter
A-	3.70	3.50-3.84	85-89.99	Very good performance
B+	3.30	3.15-3.49	80-84.99	Good performance
B	3.00	2.85-3.14	75-79.99	Satisfactory performance
B-	2.70	2.50-2.84	70-74.99	Minimum pass for students in the Faculty of Graduate Studies
C+	2.30	2.15-2.49	65-69.99	All final grades below B- are indicative of failure at the graduate level and cannot be counted toward Faculty of Graduate Studies course requirements.
C	2.00	1.85-2.14	60-64.99	
C-	1.70	1.50-1.84	55-59.99	
D+	1.30	1.15-1.49	50-54.99	
D	1.00	0.50-1.14	45-49.99	
F	0.00	0-0.49	0-44.99	

Readings

All required materials will be supplied electronically, though students are encouraged to supplement these materials work with other resources they find. Please remember to attribute any material you quote or use (include images) to the original source.

Special Budgetary Requirements

None, aside from having access to a suitable computer which can be accomplished by using the “on campus” facilities.

Notes:

1. Written work, term assignments and other course related work may only be submitted by e-mail if prior permission to do so has been obtained from the course instructor.
Submissions must come from an official University of Calgary (ucalgary) email account.
2. Academic Accommodations. Students who require an accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to their Instructor or the designated contact person in EVDS, Jennifer Taillefer (jtaillef@ucalgary.ca). Students who require an accommodation unrelated to their coursework or the requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Vice-Provost (Student Experience). For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/
3. Plagiarism - Plagiarism involves submitting or presenting work in a course as if it were the student's own work done expressly for that particular course when, in fact, it is not. Most commonly plagiarism exists when:(a) the work submitted or presented was done, in whole or in part, by an individual other than the one submitting or presenting the work (this includes having another impersonate the student or otherwise substituting the work of another for one's own in an examination or test), (b) parts of the work are taken from another source without reference to the original author, (c) the whole work (e.g., an essay) is copied from another source, and/or, (d) a student submits or presents work in one course which has also been submitted in another course (although it may be completely original with that student) without the knowledge of or prior agreement of the instructor involved. While it is recognized that scholarly work often involves reference to the ideas, data and conclusions of other scholars, intellectual honesty requires that such references be explicitly and clearly noted. Plagiarism is an extremely serious academic offence. It is recognized that clause (d) does not prevent a graduate student incorporating work previously done by him or her in a thesis. Any suspicion of plagiarism will be reported to the Dean, and dealt with as per the regulations in the University of Calgary Graduate Calendar.
4. Information regarding the Freedom of Information and Protection of Privacy Act (<http://www.ucalgary.ca/secretariat/privacy>) and how this impacts the receipt and delivery of course material
5. Emergency Evacuation/Assembly Points
(<http://www.ucalgary.ca/emergencyplan/assemblypoints>)
6. Safewalk information (<http://www.ucalgary.ca/security/safewalk>)
7. Contact Info for: Student Union (<http://www.su.ucalgary.ca/page/affordabilityaccessibility/contact>); Graduate Student representative (<http://www.ucalgary.ca/gsa/>) and Student Ombudsman's Office (<http://www.su.ucalgary.ca/page/quality-education/academicservices/student-rights>).