

ENV282H1F L0101

Big Ideas in Energy 1: Technology and Society

Fall 2016

This course will focus on the development of energy technologies, and how that development has influenced and been influenced by the development of human societies from the distant past, to the present and into the future.

The course will take a long-term perspective. The possibilities and constraints provided by available energy technology will be examined in part through looking at historical case studies ranging from some of the earliest permanent settlements in the Near East, through the city-states of classical antiquity to the European nation-states and empires of the 17th to 19th centuries. The key issues to be considered will be the circumstances that are required for both the invention and the widespread adoption of new energy technologies, the timescales over which significant change takes place, and the relationship between technological change and the political, economic, and legal framework of the societies in which it has taken place.

This historical perspective will provide context for discussion of the challenges we are facing in the modern world. There is every reason to think that coming decades will see significant changes in the energy technologies employed world-wide. This course will go on to explore the range of possible alternatives – not just from the viewpoint of what is theoretically or technically possible but in the light of what may be politically and economically feasible – and what the wider social implications of some of those alternatives might be.

Class time and location: Thursdays, 9am -11am, AB107

Tutorials: T0101: Tuesdays 12 noon – 1 pm, SS1078

T0102: Thursdays 12 noon – 1pm,

At the end of this course, students should be able to:

- **Show understanding** of a range of energy technologies
- **explain** how changes in energy technologies led to changes in past human societies, and what factors affected the adoption and use of new energy technologies.
- **compare** the effects of the adoption of energy technologies in different social contexts
- **reflect** on the possible implications for Canadians in pursuing new energy technologies and replacing existing ones.

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Course Assessment:	Two mid-term tests, each 15%	30%
	Final Examination	40%
	Short research paper (due 8 th December)	15%
	Attendance & participation	15%

Some further notes on course requirements:

- Further details about the assessment activities for this course will be provided as the term progresses. However:
 - The tests will be held on 20th October and 24th November.
 - Each test will cover the material from the preceding five weeks of the course, including assigned readings and class slides and handouts, and will require short answers.
 - Final exams are scheduled by the Faculty of Arts and Science. The exam period for this semester runs from 9th to 20th December. The exam timetable will be published in October.
 - The final exam will include both short-answer sections similar to the in-class tests and an essay section.
 - The **research paper** will be about 1500-2000 words long. Some of the tutorial sessions will be devoted to helping you with this.
 - Attendance is required at all lecture and tutorial sessions. You will be expected to have completed assigned readings or other preparation: this will be announced each week in class and posted on Blackboard.

- **Students who miss a test will receive a mark of zero for that test.**

However, if the test was missed for reasons **entirely** beyond your control you should, **within one week of the missed test**, submit to the instructor a written request for special consideration explaining your reason for missing the test, and attaching appropriate documentation, such as a medical certificate or a College Registrar's note. If your reason for missing the test is acceptable, then you will be able to take a make-up test.

Lecture schedule:

15 th September	Introduction. The Canadian energy landscape
22 nd September	Quiet Revolutions.
29 th September	The first farmers
6 th October	Fire, ceramics, metals
13 th October	Resource depletion
20 th October	(FIRST TEST). Triremes and Catapults
27 th October	Galleons & cannons: An age of discovery
3 rd November	Heat engines

Note: No tutorials this week.

7th November: Last day to cancel F courses without academic penalty

7th & 8th November: study break

10 th November	The eighteenth century: noisy revolutions.
17 th November	The nineteenth century: <i>Pax Britannica?</i>
24 th November	(SECOND TEST). Return to Canada
1 st December	To the future.

8th December: Written assignments due.

Recommended Reading: V. Smil's *Energy: A Beginner's Guide* (Oneworld, Oxford 2006) provides useful background reading for this course (and will also be useful if you plan to take ENV382H1S next semester).

Additional weekly readings will be provided in class or via Blackboard.

Accessibility Needs:

The University of Toronto is committed to accessibility. If you require accommodations for a disability, or have any accessibility concerns about the course, the classroom or course materials, please contact Accessibility Services as soon as possible: email disability.services@utoronto.ca or consult <http://studentlife.utoronto.ca/accessibility>.

Academic Integrity:

Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's

individual academic achievement. As a result, the University treats cases of cheating and plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters (www.governingcouncil.utoronto.ca/policies/behaveac.htm) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. Potential offences include, but are not limited to:

In papers and assignments:

1. Using someone else's ideas or words without appropriate acknowledgement.
2. Submitting your own work in more than one course without the permission of the instructor.
3. Making up sources or facts.
4. Obtaining or providing unauthorized assistance on any assignment.

On tests and exams:

1. Using or possessing unauthorized aids.
2. Looking at someone else's answers during an exam or test.
3. Misrepresenting your identity.

In academic work:

1. Falsifying institutional documents or grades.
2. Falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from your instructor or from other institutional resources (see www.utoronto.ca/academicintegrity/resourcesforstudents.html).