Faculty of Science

Division of Natural Science
http://natsci.info.yorku.ca/
Course Outline

NATS 1510, Section A, History of The Environment
Fall, 2017
Monday, 19:00, Lassonde C

Course Instructor(s) and Contact Information

- Course Instructor: Dr. Ian J Slater
- Email: slater@yorku.ca
- Responses will take 24-48 hours
- Office Hours: 5:30-6:30pm Monday, Rm 311 Norman Bethune College

Email Policies and Etiquette

- Please send messages from your my.yorku.ca email address and include the course code in the subject line. Please also include your name and student number where possible.

Expanded Course Description

This course looks at the history of human impact on the environment through the lens of technology and science. It is posited that technology has magnified our impact on the environment, both in scale and in scope (e.g. the magnitude of impact and new kinds of impacts – e.g. new technologies). On one end of the spectrum, science has contributed to creating new materials (e.g. plastic) that are harmful to the environment, but science is also our primary tool to determine how we are damaging the environment, and possibly how to fix it. Thus science and technology both hinder and help the environment. We will look closely at the claim that the tendency of science and technology to be appropriated by business and government undermines the ability of environmentalists to enact positive change. The course will consider examples of human interaction with the environment (so-called anthropogenic impacts) from the earliest of human civilizations to present day.

Course Learning Outcomes

Upon successful completion of this course students should be able to:

- Understand key concepts in environmental history and apply them to current day and past examples
- Understand key concepts in environmental science and apply them to current day and past examples
- Identify connections between environmental issues and economic, political, historical, social and cultural issues

- Handle basic mathematical and scientific concepts to the point they can understand science writing at the level of non-scientific academic literature and science journalism
- Conduct research into environmental issues that includes some scientific and non-scientific material
- Write a cogent and well researched argument on an environmental topic

Evaluation

1. Reading Summary and Critique (5 pages): 15% - Due October 3
2. Annotated Bibliography (5 pages): 15% - Due Nov 7
3. Essay (5-8 pages): 40% - Due Dec 5
4. Final Exam: 30%

1. The reading summary and critique involves picking one of three readings (Martin, Kirsch or Ogden), summarizing it then critiquing it. 5 pages.

2. The annotated bibliography involves taking one of the three topics assigned and finding sources relating to that topic and summarizing them.

3. The essay is a position paper on the topic you have researched, it should summarize the issue and your position on it.

Essay Topics NATS 1510

1. Huesemann and Huesemann argue for a complex set of conditions needed to make technology environmentally responsible, identify a current “green” technology and see if it stands up to Huesemann’s critique.

2. Jackson argues that the development of scientific models and testing technologies for chemical pollutants such as chlorinated compounds was crucial to their detection and removal from the environment. Find a modern environmental controversy where models and testing technologies are contested, and discuss how that impacts the debate.

3. Josephson argues that technologies like the small bore internal combustion engine are a great risk to the environment as they bring airborne pollution to environmentally pristine areas through their use in recreational vehicles. The Canadian arctic has experienced damage from airborne pollutants, discuss if the Canadian arctic is a “pristine” environment and what this suggests about the damage being done by airborne pollutants.

4. The final exam is cumulative and will be multiple choice.

Course Materials

- All required readings for this course are available as downloads on the Moodle Site
- No other materials are required

Laboratory/Tutorial

- This course does not have a formal laboratory/tutorial component
- However, part of the in class time will be dedicated to question/answer, this is not graded, but the student may find it useful to attend as the format allows for more specific questions to be answered

Course Content and Format

Sept 12
– Introductory Lecture

Sept 19
–Neil Evernden, The Natural Alien, University of Toronto Press, 1985, Chapter 1

Sept 26 -
- Paul S. Martin, Twilight of the Mammoths: Ice Age Extinctions and the Rewilding of America, University of California Press, 2005, Prologue and Chapter 2
- James Maclelland and Harold Dorn, Science and Technology in World History, Johns Hopkins University Press, 1999, Chapter 3

Oct 3 –
- Edmund Newell, Atmospheric Pollution and the British Copper Industry, 1690-1920, Technology and Culture, Vol. 38, No. 3 (Jul., 1997), pp. 655-689

Oct 17 –
- David F. Noble, America By Design: Science, Technology and the Rise of Corporate Capitalism, Oxford University Press, 1977, Chapter 1

Oct 24 –
- Ann Norton Greene, Horses at Work: Harnessing Power in Industrial America, Chapter 5
- David A Kirsch, The Electric Vehicle and the Burden of History, Rutgers University Press, 2000, Chapter 6, The Burden of History: Expectations Past and Imperfect, pp 195-208

Oct 31 –

- Robert Post, Urban Mass-Transit: The Life Story of a Technology, John Hopkins University Press, 2010

Nov 7 -
- Laura A Ogden, Swamplife: People, Gators, and Mangroves Entangled in the Everglades, University of Minnesota Press, 2011, Chapter 6 – Alligator Conservation, Commodities, and Tactics of Subversion

Nov 14 -
- Paul R. Josephson, Motorized Obsessions: Life, Liberty, and the Small-Bore Engine – Chapter 2

Nov 21-
- Steven Michael Cohn, Too Cheap To Meter, An Economic and Philosophical Analysis of the Nuclear Dream, Chapter 6, The Disestablishment of Nuclear Power as an Official Technology.

Nov 28 –
- Richard E. Jackson, Recognizing Emerging Environmental Problems: The Case of Chlorinated Solvents in Groundwater, Technology and Culture, Vol. 45, No. 1 (Jan., 2004), pp. 55-79
- Pimentel Et Al, Assessment of Environmental and Economic Impacts of Pesticide Use, in Laura Westra and Kristin Shrader-Frechette, Technology and Values, Rowman and Littlefield, 1997

Dec 4
- Michael Huesemann and Joyce Huesemann, Techno-Fix: Why Technology Won't Save Us or the Environment, New Society Publishers, 2011, Chapter 6 - Sustainability or Collapse
- Exam Review

Math Content

- Basic understanding of concepts of magnitude and number
- The occasional formula (you won't have to reproduce it, or use it, just understand what it is about)
- Discussion of models without the mathematical component (e.g. physical models)

Course Policies

- **Questions and Concerns should be directed to**
- **All questions should be directed to the Course Director, or the appointed student class representative, when they are identified**
- **Policy for a Missed Final Exam**
    - If the student misses the final exam please contact the course director as soon as possible to arrange for a deferred examination
- **Late Submissions and Late Penalties**

- There are no late penalties, assignments submitted more than a week after the due date without prior arrangement with the course director will not be graded.

- **Reappraisal Requests**
  - All reappraisal requests must be accompanied by a short explanation on the part of the student as to how they fulfilled the requirements of the assignment rubric

Copyright and Intellectual Property

- You are welcome to record the lectures, and download the lecture notes and readings, but you may not post them elsewhere for personal use

University Policies

Important Sessional Dates

Includes sessional start and end dates, drop deadlines, and withdrawal dates.

See the Office of the Registrar website at http://www.registrar.yorku.ca/enrol/dates/

Academic Honesty and Integrity

Academic honesty requires that persons do not falsely claim credit for the ideas, writing or other intellectual property of others, either by presenting such works as their own or through impersonation. Similarly, academic honesty requires that persons do not cheat (attempt to gain an improper advantage in an academic evaluation), nor attempt or actually alter, suppress, falsify or fabricate any research data or results, official academic record, application or document. Finally, academic honesty requires that persons do not aid or abet others to commit an offence of academic dishonesty, including intentional acts to disrupt academic activities.

Suspected breaches of academic honesty will be investigated and charges shall be laid if reasonable and probable grounds exist.

Academic Honesty and electronic devices during assessments (*e.g.* exams)

- Internet capable and personal storage devices of all kinds must be turned off, including vibrate. These and any other unauthorized material must be placed under the student's chair and should not be accessed at any point during the exam. Failure to comply with directive may be considered a break of academic honesty.
- See http://registrar.yorku.ca/exams/tipsheet

Please familiarize yourself with the full Senate Policy on Academic Honesty, found at http://secretariat-policies.info.yorku.ca/policies/academic-honesty-

senate-policy-on/

Please also familiarize yourself with the SPARK Academic Honesty tutorial found at https://spark.library.yorku.ca/academic-integrity-what-is-academic-integrity/

Academic Accommodation for Students with Disabilities

York University shall make reasonable and appropriate accommodations and adaptations in order to promote the ability of students with disabilities to fulfill the academic requirements of their programs.

The nature and extent of accommodations shall be consistent with and supportive of the integrity of the curriculum and of the academic standards of programs or courses.

Please familiarize yourself with the full Senate Policy on Academic Accommodations for Students with Disabilities, found at http://secretariat-policies.info.yorku.ca/policies/academic-accommodation-for-students-with-disabilities-policy/

Note: Students should submit accommodation letters from Counseling and Disability Services (CDS) to the course instructor within the first two weeks of the course or as soon as issued.

Counseling and Disability Services - http://cds.info.yorku.ca/

York Accessibility Hub - http://accessibilityhub.info.yorku.ca/

Note: A student registered with CDS, and choosing to write with Alternate Exams, is responsible for making the appropriate writing arrangements within the timeframes outlined by Alternate Exams.

Alternate Exams - http://altexams.students.yorku.ca/

Religious Observance Accommodation

York University is committed to respecting the religious beliefs and practices of all members of the community, and making accommodations for observances of special significance to adherents.

https://w2prod.sis.yorku.ca/Apps/WebObjects/cdm.woa/15/wo/kmHGekTpzKLX6XYKBXYc8M/0.3.4.62.0

Note: Students who will have an academic conflict as a result of a religious observance, at any point in the term, should make the instructor aware of such at least three weeks prior to the conflict.

For conflicts occurring during an official examination period, please complete the Examination Accommodation Form available at http://www.registrar.yorku.ca/pdf/exam_accommodation.pdf and submit to your instructor at least three weeks prior to the final exam.

Student Conduct in Academic Situations

Students and instructors are expected to maintain a professional relationship

characterized by courtesy and mutual respect and to refrain from actions disruptive to such a relationship. Moreover, it is the responsibility of the instructor to maintain an appropriate academic atmosphere in the classroom and the responsibility of the student to cooperate in that endeavour. Further, the instructor is the best person to decide, in the first instance, whether such an atmosphere is present in the class. A statement of the policy and procedures regarding disruptive and/or harassing behaviour by students in academic situations is available on the website of the University Secretariat (http://secretariat.info.yorku.ca/).

Division of Natural Science Resources

NATS-AID
Free peer tutoring for students enrolled in Natural Science Courses.
See http://natsci.info.yorku.ca/nats-aid/

M-AID in NATS (Math Aid)
Free math help for students enrolled in Natural Science Courses (TA tutors)
See http://natsci.info.yorku.ca/m-aid-in-nats/

Other Resources

Learning Commons
The Learning Commons brings together key supports for your learning: writing, research, learning skills and career services. http://www.library.yorku.ca/cms/learning-commons/

goSAFE
goSAFE is a complimentary service provided to the York Community. At the Keele campus, goSAFE has two routes: North Route & South Route which will safely transport community members by vehicle from one specified hub to another on campus. goSAFE operates seven days a week, all year round, including University closures (with the exception at Glendon during the Christmas holiday closure).

Call the goSAFE office at 416-736-5454 or extension 55454 during hours of operation. Please give your name, location and destination.
http://www.yorku.ca/goSAFE/

Mental Health and Wellness at York University
Outlines a variety of resources available to support mental health and wellness
http://mhw.info.yorku.ca/resources/resources-at-york/students/

Good2Talk
Post-Secondary Student 24 hour Helpline
http://www.good2talk.ca/ 1-866-925-5454