ARTS&SCI 4CK3 – CLIMATE CHANGE INQUIRY: ALTERNATIVE ENERGIES

COURSE OUTLINE

2014-2014 (Term 2)

INSTRUCTOR: Dr. John Maclachlan
General Science Building 230
905-525-9140 ext.24195
maclacjc@mcmaster.ca
Office Hours – By Appointment or Drop-in

Course Description
Since the formation of the Earth’s atmosphere there has been a dynamic relationship between the Earth’s climate and the processes, both natural and more recently anthropogenic, taking place on the surface. With the dawn of the Agricultural Age, humans have been altering the proportion of greenhouse gases in the atmosphere. With varying opinions within the literature as to the potential consequences of this (geologically speaking) sudden change, this course will take time to discuss both the geologic and historical implications of climate change and use that base knowledge to explore the development and use of alternative energies.

Students will be given the opportunity explore questions within the greater topic of alternative energies that interest them. Each student will lead a class discussion in an approved topic of their choice and are responsible for creating the reading list for the class. Topics are up to the student but with countless potential topics such as ‘Are alternative energies really cleaner?’; ‘NIMBY! – Everyone likes wind turbines until one pops up next door’; and ‘Geoengineering: Can we use Science to get out of this mess?’

The course capstone project will be based upon the question of ‘Selling Alternative Energies’. Students will have an opportunity to make a sales pitch on the alternative energy option of their choice to a group of McMaster staff and faculty from the McMaster Sustainability Office.

Course Objectives
By the end of this course students should be able to;
• Intelligently discuss both scientific and social issues of climate change
• demonstrate an understanding of the complexity of implementing an Alternative Energies program in Ontario
• understand the practical challenges in adapting changes to a society questioning the idea of climate change
• Critically evaluate the alternative energy policies and literature in both the scientific and popular media

Course Schedule
Three hours/week, one term, Room KTH/B107
Thursday 2:30 – 4:20 BSB 105
Friday 2:30 – 3:20 BSB 105
Class Schedule*:

Week 1 (beginning January 5th) – Discussion on the Earth’s Changing climate in both historical and geological times.

Week 2 (beginning January 12th) – Discussion of alternative energies and their place in both Canada and the world. Readings will be posted on Avenue.

Week 3 (beginning January 19th) – Exploration on how has the dynamic climate influenced human evolution and when did humans begin to influence the climate.

Week 4 (beginning January 26th) – A discussion on the perception of alternative energies. This will be used as an introduction to the capstone project. The Thursday class will take place in the Lyons New Media Centre in Mills Library.

Week 5 (beginning February 2nd) – Student led discussion on topics of their choice. This will be the first of five weeks of student led discussion. During this time the reading list will be constructed by the class. An example of this can be found here: https://docs.google.com/document/d/1gaLrD0CZaKGRF3nLuxq7-j0gYZkCNioAiYZOgBcQY/edit?usp=sharing

Week 6 (beginning February 9th) – Student led discussion on topics of their choice.

Week 7 (beginning February 16th) – READING WEEK

Week 8 (beginning February 23rd) – Student led discussion on topics of their choice.

Week 9 (beginning March 2nd) – Student led discussion on topics of their choice.

Week 10 (beginning March 9th) – Student led discussion on topics of their choice.

Week 11 (beginning March 16th) – A discussion on how alternative energies are planned for by municipalities. This week’s discussion will take place in one of the McMaster Geographic Information System (room announced closer to the date)

Week 12 (beginning March 23rd) – Climate change in the Popular media (Hollywood movies, documentaries, etc.)

Week 13 (beginning March 30th) – Presentation and Discussion of the capstone projects

*Class schedule may change at the discretion of the instructor

Grade Breakdown

<table>
<thead>
<tr>
<th>Class discussion leadership</th>
<th>30%</th>
<th>Students scheduled individually.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignment</td>
<td>25%</td>
<td>March 2nd</td>
</tr>
<tr>
<td>Viewshed Analysis</td>
<td>10%</td>
<td>March 23rd</td>
</tr>
<tr>
<td>Participation</td>
<td>15%</td>
<td>Throughout the semester</td>
</tr>
<tr>
<td>Final Presentation/Paper</td>
<td>25%</td>
<td>April 7th</td>
</tr>
</tbody>
</table>

Textbook

There is no need to purchase a textbook for this course. Extensive class readings will be posted on Avenue during the first week of classes. The student compiled reading list will be made available on a Google Document.
Late Assignment Policy
All assignments are subject to a late penalty of 20% per 24 hours. The weekend counts as one day.

Classroom Discussions
As with all Inquiry classes it works best if it is centered around topics that interest the class. During the second week of class we will create a pool of interesting topics that we will explore. Students will get to choose a topic of interest and will then lead the class in a discussion. The student will be responsible for creating and posting a list of readings to a course Google Document at least 48 hours prior to the discussion as well as a post discussion quiz question. Each student must summarize two class discussions and these will be assigned by the instructor. Summaries are due within 72 hours of the class discussion.

A2L Information (http://avenue.mcmaster.ca)
This course will use Avenue to share and distribute information. This will be true of both the instructor and the students.

Avenue is an online system which will be used in this class for communicating information relating to the course. To log into avenue, use your MUGSI login and password. See the avenue homepage address above for more instructions if you need them. You are required to log on to avenue at least twice a week for course updates.

McMaster Policy on Academic Integrity:
You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity. Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences—e.g., the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: “Grade of F assigned for academic dishonesty”), and/or suspension or expulsion from the university. It is your responsibility to understand what constitutes academic dishonesty. For information on the various types of academic dishonesty, please refer to the Academic Integrity Policy, located at: http://www.mcmaster.ca/academicintegrity

The following illustrates only three forms of academic dishonesty: 1) Plagiarism—e.g., the submission of work that is not one’s own or for which other credit has been obtained. 2) Improper collaboration in group work. 3) Copying or using unauthorized aids in tests and examinations.

MSAF Statement
McMaster Student Absence Form (MSAF):
This is an on-line, self-reporting tool for students to report absences due to minor medical situations that last up to 5 days and to request accommodation for any missed academic work that is worth less than 30% of the final grade. Please note that this tool cannot be used during any final examination period. It is the prerogative of the instructor to determine the appropriate relief for missed term work. You may submit a maximum of one request per term. The form should be filled out immediately when you are about to return to class after your absence. It is your responsibility to follow up with your instructor immediately (within two working days) about the nature of the accommodation.

If you are absent for more than 5 days, have missed academic work worth 30% or more, or exceed one request per term, you must see Shelley Anderson or Rebecca Bishop in the Arts & Science Program office (C-105). You will be required to provide supporting documentation.
Email Contact and Student Responsibility Statement

Please Note:
“The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of students to check their McMaster email and course websites weekly during the term and to note any changes.”
Announcements will be made in class, on Avenue and by using the course email distribution list <eg: d-as4ck3>.

Academic Accommodation of Students with Disabilities:
Students who require academic accommodation must contact Student Accessibility Services (SAS) to make arrangements with a Program Coordinator. Academic accommodations must be arranged for each term of study. Student Accessibility Services can be contacted by phone 905-525-9140 ext. 28652 or email sas@mcmaster.ca. For further information, consult McMaster University’s Policy for Academic Accommodation of Students with Disabilities.

Criteria for Sustainable Written Work Submissions
The written work submission guidelines for this course have been chosen to support the more sustainable use of paper, energy and toner. Four levels of criteria have been developed by the Office of Sustainability and encouraged for adoption by professors and faculties.

The submission guidelines for this course meet the Platinum standard. All written work must be submitted in the following format:

- Reduced line spacing
- Exclusion of title page
- Decreased margins
- Online submission and return

For more information about criteria for sustainable written work submissions, visit the Office of Sustainability website: www.mcmaster.ca/sustainability