Economics 326: Ecological Economics

**Format and Marking:**
Briefing Note, Case Study, & Debate (each worth 25%)

*In the event of extraordinary circumstances beyond the University’s control, the content and/or evaluation scheme in this course is subject to change.* Otherwise failure to meet deadlines without properly documented medical or similar note can mean penalties up to and including a mark of zero on late or absent work.  
All material should be submitted into an appropriate myCourses assignment folder. *Do not email your assignments to the Professor or TA.*

Please see the end of this document for general advice on written submissions

**Assignment 1** is the in-class test on October 3rd

**Some key concepts to be understood:**
- Bio-geo-chemical cycles
- Carrying capacity
- Bioaccumulation
- Ecosystem services
- Limiting factors
- Environmental footprint
- Energy carriers, conversions, efficiencies etc.
- Closed-loop versus linear-throughput systems
- Entropy (the scientific not pop meaning)
- Dynamic systems thinking
- Path dependent behavior
- Multi-criteria evaluation versus single-metric approaches
- Mass balance analysis and industrial metabolism
- Industrial garbage vs. ecosystem waste
- PLUS other concepts explained in the videos noted above or in your ecology book (the first is the easier route!).
- **MAKE SURE** you understand and use properly concepts used in your written and spoken work.

**Assignments 2 and 3:** Briefing note and Debate performance

**Learning Objectives:**

1. Demonstrate basic research skills around a topic
2. Gain confidence speaking publicly
3. Practice rhetorical skills in developing and challenging an argument
4. Work as a team to develop a cohesive point of view
5. Gain familiarity with a deeply rooted academic tradition

**Due Dates:** (any changes will be announced by e-mail, if not these dates are firm)
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**Group selection:** September 28th

**Debating Tutorial:** October 10th

**Briefing Note Submitted:** October 22nd

**In Class Debates:** Nov 14-28

**Details:**

Social and mass media have eroded public discourse and rational discussions about ideas. This assignment will give you a chance to counter that trend by partaking in a modified BP-style debate. This will require you to research a topic, develop an argument, orally present your argument, predict the argument of your opponents, develop an effective counter to them, and most importantly, think on your feet. Oral debate is a classic academic exercise, emphasising rhetoric and critical thinking, but also style and etiquette. There are many different styles of debate. But this one is the best known in the Anglo-Saxon world.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Resolution (THBT…)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental trends as a global security threat</td>
<td>…in the future, <em>climate change</em> will be a greater threat to <strong>humankind</strong> than conflict of any scale.</td>
</tr>
<tr>
<td>A liveable environment is a human right</td>
<td>…the current framework of international human rights must be replaced by a framework acknowledging the inherent rights of the biosphere</td>
</tr>
<tr>
<td>Alternative International Financial Institutions</td>
<td>…a primary feature of the contemporary ID narrative is exporting environmental externalities to poorer nations in the guise of economic prosperity.</td>
</tr>
<tr>
<td>Conservation Cons…</td>
<td>…the current model of nature preservation inherently creates an unequal distribution of access to “nature”</td>
</tr>
<tr>
<td>Course for change</td>
<td>…the re-embedding of the economy within the biosphere requires a wholesale re-organisation of said economy.</td>
</tr>
</tbody>
</table>

This assignment consists of 3 parts:

1. **Forming Teams:** Once Drop-Add is over students will sign up for their preferred topic on myCourses
   a. Check the discussion page and add your name to the discussion thread of your choosing. **Please choose only one topic**
   b. the first twelve on any topic will become a group, the process is strictly first-come-first-served. After all students have chosen or been slotted into a topic, the affirmative and opposition sides will be assigned randomly by the instructors.
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c. If students have not indicated their choice within one week from the end of Drop-Add, the TA will assign them to a group.
d. The result is a team of 5-6 people with whom you prepare your debate. Each team member will have 5 minutes of speaking time, and a specific role based on their speaking order. This is to be worked out by each group
   i. Groups of 5 are expected to deliver all 6 speeches, so one member will speak twice
e. The final list of teams with their assigned dates will be released once all the teams are set.

2. Briefing note: or proving to Tom and Duncan you’re using your time well.
   a. Each student will independently produce a 2-3 page briefing document containing early research and ideas for the class debate. Consider this your chance to walk before you run. In the debates, you will be acting as a member of the government, for the briefing note you’re a junior analyst at Environment and Climate Change Canada tasking with bringing a member of parliament up to speed on your topic so they don’t look silly in public.
   b. These briefing documents should include a preliminary version of the arguments you or your team will raise, the arguments you expect your opposition to make, and some early arguments against the expected position your opposition will take.
      i. Is not sufficient in a debate to just make your arguments well, you have to engage and try to discredit to opposing argument.
      ii. You should seek to synthesise your arguments and your disagreements with your opposition, why does what you’ve said directly undermine the opposition’s arguments?
   c. This document can also include debating strategies, fact sheets, and useful sources of information.
   d. This can include useful sources of information
   e. While you are encouraged to work with your team members, all submissions must be unique and respect the University’s commitments to academic integrity (DON’T COPY, DON’T CHEAT)
   f. Submitted to the appropriate myCourses folder.

3. The debates: after all this hard-work, your final task is to debate an opposing team in front of your peers. Come well prepared, relaxed and rested. Everyone is expected to attend, even on the days you aren’t presenting. No one wants to debate in front of just the instructors! To encourage you to support your classmates, marks will be deducted from the grades of absent teams.
   a. For more information about the debate itself, please refer to the Modified BP guide on myCourses and be sure to attend the in class tutorial!
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**Briefing Note Marking Criteria: /25**

<table>
<thead>
<tr>
<th>Argumentation</th>
<th>Argument treats the resolution in good faith. Arguments raised reach a logical and convincing conclusion. The opposing view is well anticipated. Rebut opposing view and back your opinion up with arguments and evidence.</th>
<th>/15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content</td>
<td>Information gathered is relevant to the topic at hand and presented in a cohesive manner. Argument is based on more than conflicting data</td>
<td>/10</td>
</tr>
</tbody>
</table>

**Debate Marking Criteria: /25**

The debates are marked as a competitive, team effort. Baring extraordinary circumstances, all member of a team receive the same debate grade; at the conclusion of the debate, one team will have been judged the “winner” by the instructors with the winning team generally receiving an “A” grade and the runner-up team generally a “B”. This can be modified for particularly exceptional (good or bad) performances.

**If a member of your group fails to make a proper contribution, all** other members should notify Professor Naylor of their delinquency, and appropriate action can be taken from there.

**Assignment 4: Case Study: /25**

Each student will prepare a five-page analytical text plus no more than two pages for references. They will use the class frameworks - circular flows of matter and energy, cycles of life, and how entropy manifests itself in the time and space - to discuss a current environmental problem stemming from embedding human engineered energy and material flows into the former economy of nature. Your analysis should be economically driven with careful regard for environmental and social consequences, both long and short term; and both proximal and distal from the centre point of the problem. The specific subject could be a metallic ore, a rare plant, or maybe even a common species facing new problems because of human exploitation, direct or indirect. The role of social movements can figure in your analysis; but the focus is mainly entropic trends.

Consider too the scale and the scalability of both the issue and its consequences. Pay attention to habitat – natural or synthetic, and things like water supply, toxin production and accumulation, and life cycle analyses that affect not simply the material at a given stage of production but well beyond. For example the impact of pesticides not just on the target species etc. but on other living things including humans – producers, consumers, and unfortunates dealing with the garbage. Your case study may cover some of the same ground as your debate. Since all students will be engaged in a parallel exploration there is plenty of room for informal groups to cooperate among themselves doing similar but not identical projects.
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TIMETABLE FOR CASE STUDY

Clear Topic personally with Naylor (downtown) or Warltier (Mac Campus) Sept 24, 26

One page Case Study Outline (appropriate folder on My Courses) Oct 10

Case Study submitted to appropriate assignments folder on My Courses Dec 5

NOTE: All changes or announcements other than those due to last minute emergencies will be e-mailed to students using their McGill e-mail. It is your responsibility if you use another personal e-mail to ensure that things sent by the instructors or to the instructors are forwarded via the official McGill e-mail. A missing or late paper is a failed paper.
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Assignment 4: Case Study, long format written analysis

Learning Objectives:
1. proper use of scientific concepts;
2. ability to home in on core concepts;
3. clarity of expression with clear definitions and without hyperbole
4. display the ability to comprehend information, place that information with the framework of an argument, and use a series of these arguments to support a general thesis

Due Dates:

<table>
<thead>
<tr>
<th>Topic Approval:</th>
<th>date</th>
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<tbody>
<tr>
<td>Outline Submitted:</td>
<td>October 31st (early submission is permitted and encouraged)</td>
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</table>

Details:
Your task for the case study is to write an analytical essay on a particular environmental “menace”. This essay should take into consideration the larger impact and values associated with the topic and be well informed on both long- and short-term impacts. Focus on contrasting the orthodox economic thinking that has created a problem and the more holistic perspective, presented in the course, that might have foreseen the issue. Discuss the historical and sociological context of the issue being examined; this often helps to explain the root cause of issues. If applicable, present alternatives to what was done to create a menace. Incorporate material from class and the readings where appropriate.

Look at the cases in UBC and the EIAstlas guides available on MyCourses. These are not mandatory, just useful formats to keep in mind.

Your assignment consists of 3 parts:

1. Find a well-focused topic. Your first job is proper understanding of the appropriate background science and extensive digging into the realities of the topic and the case itself. Get this topic approved by email to Duncan. **Do not email Tom.**
   a. Your case study should focus on an issue related to a single raw material (mineral, timber, livestock etc.), a single material transformation (smelting, refining, manufacturing etc.), a single energetic transformation (hydro damming, power generation etc.) or a combination thereof. Try to find a real-world situation where you can isolate a single leverage point to build your argument upon, and link it to the rest of the systems influencing the problems caused.

2. Your second task is a neat, clear and logical outline **one page** outline submitted on myCourses by Oct. 31.
   a. A CASE STUDY outline contains:
      i. a short statement of the objective of the case (point form is fine);
      ii. a quick survey of what kind of material you will look for
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iii. a few lines on research method proposed
iv. a tentative timetable for research and writing.

b. Failure to submit or (with permission) resubmit a suitable outline on time can lead to loss of up to 5 marks on case grade.

3. The Final task is to submit your assignment on myCourses. Make sure it abides by all the assignment guidelines
   a. Case study should not exceed 5 pages of text, 12-point type, spaced 1-1/2
      i. References should be 1-2 pages, in addition to the 5 pages of text

Marking Criteria: /25

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Content</td>
<td>Must have a convincing argument. Offer the reader both sides of the argument. Rebut opposing view and back your opinion up with arguments and evidence.</td>
<td>/5</td>
</tr>
<tr>
<td>Thesis statement and argument</td>
<td>Must have one clear central argument that is substantial and logical. Well placed in the beginning of the paper</td>
<td>/5</td>
</tr>
<tr>
<td>Organization</td>
<td>Argument must be smooth and logically and able to persuade. Avoid digressions.</td>
<td>/5</td>
</tr>
<tr>
<td>Style</td>
<td>Avoid jargon. Use language appropriate for a general audience. Write with an engaging, energetic, and compelling tone. Be clear and concise – no fluff.</td>
<td>/5</td>
</tr>
<tr>
<td>Grammar/spelling/formatting</td>
<td>Subtract points for error in spelling and grammar (punctuation mistakes, fragments, run on sentences, etc)</td>
<td>/5</td>
</tr>
</tbody>
</table>
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Tom’s Considerations for Written Work:

1) Short analytical papers require more rethinking and rewriting, and better test ability to locate materials that supplement or contradict articles assigned. Get to the point without unnecessary elaborations.

2) The point in all your written work is to explain clearly the meaning and significance of material. Don’t hesitate to disagree with anything said in readings or by the instructor provided you have factual (solid data) or scientific (investigative) proof.

3) Do not assume what you have to prove. Start with a query; then conclude with a response whether positive, negative, or ambiguous, as appropriate.

4) Keep in mind the critical distinction between a “problem” that calls for a “solution” and a “predicament” that requires a “resolution,” possibly a painful one.

5) Make sure your references are correctly cited.

6) Number your pages!!!!

7) Any excess over required length limit will NOT be read, but will affect your grade negatively.

Duncan’s Assignment Commandments

1. Thou shall use 12-point, 1½ spaced Times New Roman, Georgia, or Arial font, no exceptions
2. Thou shall justify thine text
3. Thou shall use English UK or Canada spellcheck (for French: Canadian or France s.v.p.)
   a. When in doubt, consult thine Oxford English Dictionary and/or Strunk & White’s Elements of Style
4. Numbers greater than 1,000 will be given a comma delimitation, decimals will use a full stop, “.” (work submitted in French may use the opposite as is customary)
5. All numbers will be stated with metric units as defined in the Système international d’unités (SI), stated as a conversion in brackets at minimum
   a. Imperial tons come in 2 sorts:
      i. An American or short ton (2,000 lbs)
      ii. A British or long ton (2,240 lbs)
         1. 2,240 lbs = 400 st. (stone) = 20 cwt (hundredweight) = 1 ton
         2. 1 cwt = 8 st. = 112 lbs (a US hundredweight is 100 lbs., hence their small ton)
         3. 1 st. = 14 lbs
      4. Feet, furlongs, chains, and miles are worse
   b. Metric tonnes are 1,000 kg
      i. Can’t imagine why we went metric
   c. Computer data in measured in bits and bytes, with larger volumes measured in kilobytes, megabytes, gigabytes, and terabytes. Despite taking decimal base
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prefixes, data is measured in base 2, so 1 kilobyte ≠ 1000 bytes, 1 kilobyte = 1024 bytes. Just be careful.

6. Currencies should be expressed with a year and should be converted to modern parity purchasing power (PPP)

7. Thou shall use binomial nomenclature properly:
   a. Latin species names are always italicised, e.g. *Homo sapiens*
   b. The genus, *Homo*, is always capitalised, the species, *sapiens* is always lowercase
   c. After the first mention, it is appropriate to abbreviate the genus name, e.g. *H. sapiens*
   d. “*Homo sp.*” refers to a single member of the genus *Homo*, if the species cannot be determined
   e. “*Homo spp.*” refers to all members of the genus *Homo*

8. Chemicals shall be identified using a common name, with IUPAC names given once in brackets or a footnote. Avoid chemical formulas unless necessary.

9. Thou shall submit a word document (.doc or .docx) in the appropriate myCourses folder

10. Thou shall put thine name in thine file name

11. Thou shall use in text citations with the format (name [and name] or [et al.], yyyy), with page numbers for quoted text

12. Thine Bibliography will start on a fresh page, it will be alphabetised, with hanging indentations, and a consistent, recognised format (Harvard format is preferred)

13. Thou shall not cite Wikipedia alone, its only use is as a guide to actual literature.