**The Biology of Sustainability**

**Seminar guidelines**

**BIOL 510, 2024**

**The 4 most relevant course learning outcomes related to this exercise are that by the end of the course the student should be able to:**

1. Critically assess the constraints (ecological, economic, social, behavioural and political) that underlie society’s current responses to global change issues
2. Discuss, explain, and critique the similarities and differences between contemporary Buddhism and Indigenous cultures in fundamental philosophical concepts that relate to Biology and Sustainability such as interconnectedness and impermanence
3. Formulate clear, original, challenging, and concise thematic questions from study reading material that are likely to lead to focussed and intellectually probing seminar group discussions, student-led seminar topics, or short synthesis essay/media projects
4. Lead a stimulating, informative, and creative seminar interpreting selected material from Barash’s book Buddhist Biology in the context of this course’s focal question (see above)

**Seminar assignment**

For this component of the course, please prepare and deliver a seminar on some aspect that particularly interests you of the central course theme question – ***Our civilisation's demise is certain; its timing uncertain.  How should we be living?*** The most critical part of the whole exercise, and the key to a successful seminar, is to identify a clear and specific question that you would like to address. **Ask yourself, what is the most interesting question you can ask in relation to the content of your chosen chapter section or paper that fits at least partly within the context of the broad course theme**. That question will be the core focus of your seminar. The question should be constructed so that it will likely lead to focussed, intelligent discussion that will move the seminar group toward some potential answer, or toward a more refined perspective on the issue/theme, or toward an even more refined question. The more interesting the question is to you, the more successful the seminar is likely to be for you, and for your audience.

Your ultimate goal as a seminar convenor is to excite interest in your topic so that your audience will be fully engaged and keen to discuss the ideas you raise, and therefore that they will leave the seminar afterwards with a much better understanding of the specific seminar question you have focused on, and how it relates to the overall course theme question.

You will need to be creative and think carefully about your chosen question, and you should expect to go through several iterations of the question as you read about the topic. In many ways, **developing a good focusing question is the most difficult part of the exercise, but once achieved will make for a very effective seminar**. The critical point is that the question is clearly focused on an issue that is of particular interest to you, and that is relevant to the overall course theme. I am available to assist and can meet one-on-one with you a week prior to your seminar, and you will also find it very useful to look at previous iterations of this course to see examples of great seminar focus questions (See drop-down menu on course website for previous iterations <https://www.queensu.ca/terrestrial-ecosystem-ecology/teaching/biol-510-biology-sustainability/biol-510-biology-sustainability-fall-2024> ).

In developing your seminar question, remember that in addition to your chosen book chapter section, there are many other possible readings in the course Reference list. Furthermore, as you will soon discover, there is a substantial and rapidly growing amount of readily accessible information related to the course theme currently available in the natural and social sciences databases (e.g. Web of Science). Remember that part of this exercise is aimed at familiarizing you with how to effectively access, sift through and synthesize that information. You will need to study a selection of readings that are relevant to your focus topic to help you develop and refine a broad, challenging, well-worded seminar question.

My plan is for each of you to do your seminar alone, and scheduled seminar slots will be allocated on a first-come first-served basis, so e-mail me when you have decided, and indicate which slot in the schedule you (and your partner if applicable) would like most, and your second choice. There are 15 students in the class, and 13 sections in the Barash book. So there will be two students who will do Indigenous culture-focused seminars using a wildcard reading. They are advised to develop a question first, and then locate a suitable potential readings for their seminar audience. They should consult with me before making the final choice.

Your initial idea for a seminar focus question should be sent to me at least 7 days prior to your allocated seminar slot so that I can assess it and provide feedback. The earlier you send it to me, the more feedback I will be able to provide. **As a general practice, please plan on meeting with me immediately after the session that is 7 days before your scheduled seminar.**

As convenor, **use the chapter section or paper associated with your seminar as a spring-board** to stimulate your ideas and generate an interesting and challenging seminar question. The latter, and your various sub-themes/questions in the seminar, should be primarily based on what really interests you. Yes, they should broadly fit within the course theme, but only broadly.  Remember that your entire audience will have fully and recently read the chapter section or paper beforehand – you should not even attempt to present all of the content within it. Instead, pick out the components that most interested you, and that therefore are most relevant to your seminar question, and elaborate substantially on those components using other readings, and your own thoughts and ideas. If you wish to focus entirely on the hard science/biology, and expand in detail and breadth on various topics Barash touches on, then that is totally fine. If you want more of a buddhist philosophy/human perspective focus, that is totally fine too. You can choose to attempt integration of the two if you wish, but you do not have to.  In summary, just make sure you are focusing on concepts and questions in either realm that really interest you, and make sure that you are taking us to new understanding of those concepts.

Finally, note that I am very keen to support individual approaches in this course, so if you have other suggestions as to how you would like to do your seminar apart from the detailed guidelines below, please develop them and we can discuss when we meet one-on-one.

**Seminar Exercise:**

1. Read your chosen chapter section or paper very carefully, and highlight what you find most interesting, especially within the context of the overall course theme.
2. Develop a clear, focussed and intellectually stimulating question that you can use the content in your chosen chapter section or paper to address. Note that the question should have a broader focus than the individual chapter. In other words, the chapter will not provide a comprehensive answer to your question, but will contribute toward answering it.
3. Consult the general and primary scientific literature on your topic of interest and synthesize the current status of information on that issue so that you can expand your audience’s learning beyond the chapter/paper. In addressing your seminar question, you are expected to use evidence from other readings to supplement the chosen chapter or paper content.
4. Make an oral presentation (totaling no more than 15 minutes in normal lecture presentation mode, but that will in fact go much longer because it will be interspersed with multiple question and answer and discussion sections), aimed at stimulating ideas and debate for discussion focused on the theme of your seminar question. I am anticipating that the whole seminar including the interspersed discussion will take an hour or so. Having ~3 clear, focused, intellectually probing, sub-questions within your chosen theme is a very good mechanism to achieve strong discussion.

You are encouraged to present in whatever way you think will most inspire your audience to engage with your seminar question. Powerpoint, debate, role play etcetera are just some of the possibilities. Activities should be very clearly formulated. If you do choose to have your audience do one, take care to make absolutely sure the participants fully realise its significance and the insights it offers to your overall question. Remember that the seminars should be highly interactive so that your audience are fully engaged.

The presentation should be suitable for an interested public audience, and **may** include the following headings (i.e. these headings are merely suggestions – you must devise the structure and approach that you think will be most effective to address your question):

a) **Introduction**. Introduce the topic, its relationship to biology, buddhist/indigenous philosophies, and global change, and its historical context. It is often very effective as an ‘ice-breaker’ to make some personal connection to the topic – e.g. Why does your chosen topic have special meaning for you? Present your seminar question (Make sure to write it up very clearly in your title page (and on the whiteboard), and possibly again later. Explain why you chose it.

b) What are **the most interesting arguments** in the chapter section or paper? Articulate and explain 2-4 of them during your seminar, and set them in the context of your broader overall seminar question. Note that arguments are derived and developed from ideas; and so arguments are particularly effective learning tools. If you can formulate the ideas within the chosen chapters that you find interesting into actual arguments, your seminar is likely to be particularly appealing and valuable.

c) **Why** are those particular arguments or ideas so interesting to you, and what **insights** do they provide in relation to the overall course theme?

d) **Critique** those arguments or ideas. What positive value do they have? What criticisms would you offer? What evidence is available to support them? Are they dependent on any important assumptions? Are there hardcore biological science aspects that you can add to support (or refute) the ideas presented?

e) **In what ways can the author’s arguments be improved or refined**? Review the topic and what others have written on it since.

f) How does the **perspective and background of the author** influence the structure of the arguments and the conclusions?

g) **Are there any ideas in your seminar that link to material presented or discussed earlier in the course?** Be sure to articulate those linkages to earlier chapters or other discussions, and explain the connections, as this can be a great way of enhancing the deeper learning (and engagement) of your audience.

h) **What can we conclude in relation to your seminar question?** Provide a set of 2-3 ‘take home’ summary messages. This is a very important part of the seminar because you want your audience to go away with an improved understanding of the linkages between indigenous ways of knowing and relating to nature, and our civilisation’s future sustainability. In short, what interesting seminar discussion points would you like your audience to be talking about later that day with friends or family? Finally in your summary, it is generally a very good idea to include a synopsis of what you have learned from your audience contributions during the seminar.

**Seminar convenor:**

Seminars will be graded according to the following criteria:

a) identification of a clear seminar question

b) development of that question during the seminar using evidence from the chosen reading, and other sources

c) evidence of independent critical thinking

d) presentation clarity, enthusiasm and originality

e) discussion leadership

f) synopsis at the end of the seminar

Note the above very carefully. - They tell you what I am looking for!

**Seminar participants:**

The success of this course as a learning instrument will largely depend on the quality of the discussions in each seminar. The main objective is to encourage your independent critical thinking on the linkages between Biology and the philosophical perspectives of Buddhism and Indigenous cultures that relate to global change, and the future sustainability of our current civilisation. Initiation and participation in the discussions following each seminar is a critically important part of the learning process in this course.

Please read the relevant Barash chapter section or Indigenous-themed research paper circulated prior to each seminar, and submit a single discussion question relating to the chosen reading and its context within our overall course question.

For assistance, please consult the separate document entitled Guidelines for developing good seminar questions attached here, and posted on the webpage and onQ. Your question should be submitted in Microsoft Word format to the convenors via the Course ONEDRIVE  [ BIOL 510 2024](https://queensuca-my.sharepoint.com/%3Af%3A/r/personal/groganp_queensu_ca/Documents/BIOL%20510%202024?csf=1&web=1&e=cxAKEd)  by 5pm on the night before the associated seminar begins – late questions will not be accepted. The questions will subsequently be graded by the convenor and the course instructor on the basis of their quality (i.e. perceptiveness/depth of thinking, originality, and relevance).

**Final task for the seminar convenors:**

After you have given your seminar, you will have 1 week to mark the audience’s written questions.  I will circulate a spreadsheet in which you can enter the marks (out of 10) and then send to me.  Remember that the questions must have been submitted prior to the seminar, and should be marked on the basis of their quality (i.e. perceptiveness/depth of thinking, originality, and relevance).

In addition to learning how to assess and grade each other’s work, the second goal of this task is for you to learn from the ideas and questions your audience have provided to you.  Accordingly, please reflect on each of the question submissions, and write in any useful comments or responses that you think the questioner will benefit from (as text in the ONEDRIVE document from each student).

Finally, please choose the best two questions out of all the ones you got...and indicate your selection (1st, 2nd) on the marks spreadsheet when you send the questions all back to me – within a week of your seminar please.