**Short essay guidelines**

Terrestrial Ecosystems (BIOL 416)

**Essay assignment**

The exercise is designed to be an opportunity to further develop your ability for critical and original thinking, and for presentation of those ideas in concise written form. Each of you has spent considerable time preparing your seminars, developing an interesting focal seminar question, and doing background reading around your seminar’s core question. You will have learnt a substantial amount during these processes, and in the interactions with the rest of the group (including the questions they presented to you), and in your own post-seminar reflections. For this short essay, I want you to take that work to the next step so as to further advance your learning by writing an *interesting* and *creative* short essay in support of the following argument/thesis:

***Terrestrial ecosystem ecology is a recently developed branch of biology that offers significant fundamental scientific insights toward developing more sustainable agricultural practices by the farmers we have met on this course.***

**Essay exercise**

Generate your own original perspective on the argument utilizing your understanding of the course material delivered in the initial seminars by Paul, and those by your colleagues, your study of the Chapin textbook and other background readings, and relevant material from other courses. Be original and creative. Demonstrate your capacity for independent critical thinking. Discussing it with class mates may really help you to develop your perspectives and evidence in support or against the argument.

The essay (~1000 words and not more than 3 pages of double-spaced text) should be suitable for an audience of interested, but not scientifically trained, farmers, and should include the following components:

a) Introduction to the argument. (~1/3 page) Outline necessary background information on the particular relevance of the argument, and why it is novel/interesting. This section should lead up to, and conclude with, a precise articulation of the essence of the argument and how you are going to support it.

b) Evaluation of the evidence. (~2 pages) Describe and evaluate ~3 clear and distinct terrestrial ecosystem ecology insights or concepts that you think would benefit the sustainability of particular agricultural practices that one or more of these farmers do. Be as detailed and specific as possible, and be sure to explain why those insights or concepts would be useful – this is a great opportunity to demonstrate creative and original thinking. **Try and write in a way that would prompt Evan, Charlie or Titia to actually implement the terrestrial ecosystem ecological understanding that you are highlighting.**

c) Conclusions. (~1/2 page) Indicate constraints associated with any major assumptions that have been included in your evidence, and implications/future directions that arise from your conclusion.

Final essays will be graded according to the following criteria:

1. Evidence of original, critical thinking (quality of the ideas presented in relation to the argument)
2. Development of argument (logical flow of evidence and ideas to address the argument)
3. Background reading (evidence of relevant reading, and its intelligent use in developing the argument)
4. Synthesis of ideas (evidence of bringing together related ideas to developing unifying original perspectives)
5. Writing quality (overall evaluation of how stimulating and accessible the text is for the reader)

**Please carefully study the full marking rubric which is supplied at the end of this document.**

**Preparation**  
The very broad nature of the essay argument means that it will be *very* easy to generate *some* text as an essay answer. As the marking criteria above indicate, I am looking for a lot more than that. Remember that those criteria (above) will be the basis of your grade: appropriate preparation means preparing to address each and all of those criteria.

Consider the essay argument carefully. Pause to reflect on it. Review all of the relevant seminar and reading material that you have been exposed to in this course, and in others as appropriate. Take some time to develop thoughtful and creative ideas as evidence to support the argument. I am looking for original thinking and perspectives that are substantiated by good background knowledge. Make an outline of the evidence that you will use to address the argument, and structure it as three logically linked sections based on the components described above. Include in it any relevant references that you are intending to use in the final essay.

**Notes:**

Please submit a hardcopy of your outline essay to me at the lab on Tuesday, November 22nd at the latest. Include bullet points or draft text for each of the three sections above, as well as any queries you may have on which you want feedback from me. Please make all text double-spaced etcetera as required of your final submission (format details below). I will work through these drafts and provide feedback by the following Friday (November 25th). These initial drafts will be worth 8% of your course grade, and will be marked on the basis of depth and originality of thought in relation to your 3 insights/concepts. You could submit just three bullet points with those insights and how and why they would be useful, or you could submit a whole draft essay, or something in between – it is up to you, and I will make comments and suggestions on all your text, but you will only be marked on the depth and originality of thought in relation to the 3 insights/concepts.

Final essays should be submitted to me electronically as PDFs by 10 am on Monday December 5th AT THE LATEST. I will mark the essays (worth 12% of your overall course grade) on the basis of the marking criteria outlined above and consideration of your performance on each aspect of the rubric attached below.

Please type your draft outline and final essay in Times New Roman font size 12 and double space the text with 2 cm margins. As indicated above the complete text of the final essay should be no longer than 3 double spaced pages (~1000 words).

All references cited in your essay should be listed in a bibliography at the end as an appendix. The bibliographic style used in the journal *Ecology* would be very appropriate.

Section and subsection headings within the essay are strongly encouraged.

Figures and graphs should only be included where they provide essential background information or evidence to the argument. They should be incorporated as appendices (and so are not part of the page limit).

**Resources (for this exercise, but also for your future reference)**

Note that there are substantial resources at Queen's to help you in developing your learning and writing skills (<http://sass.queensu.ca/learningstrategies/>). See the Writing Centre (<http://sass.queensu.ca/writingcentre/>) to view their online resources or to make an appointment for one-on-one tutorial assistance. Plan ahead because it can take weeks to get an appointment late in the term when things get busy. In addition the Writing Centre provides useful sets of short guidelines (<http://sass.queensu.ca/writingcentre/tipsheets/>) on many aspects of writing including how to develop a thesis statement, how to structure a good paragraph, and how to develop an essay outline (e.g. <http://sass.queensu.ca/writingcentre/wp-content/uploads/sites/3/2013/06/Developing-an-Outline.pdf>;

<http://sass.queensu.ca/writingcentre/wp-content/uploads/sites/3/2013/06/Organizing-the-Essay-Body.pdf>;

<http://sass.queensu.ca/writingcentre/wp-content/uploads/sites/3/2013/06/Paragraph-Structure1.pdf>;

<http://sass.queensu.ca/writingcentre/wp-content/uploads/sites/3/2013/06/Paragraph-Coherence1.pdf>)

In addition, the following guidebooks on writing skills are particularly good:

* Schimel, J. 2012. Science: How to Write Papers That Get Cited and Proposals That Get Funded. Oxford University Press.
* Strunk, W. Jr. 2000. The Elements of Style (4th Edition)
* Williams, J.M. and Colomb, G.G. 2010. Lessons in Style and Grace in Writing (10th edition)

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|  | **Weak** | **Average** | **Very good** | **Excellent** |
| **Knowledge/Understanding** - - ideas, concepts, themes, content  - synthesis/integration | - Shows minimal understanding of ideas, concepts, themes, content  - Little evidence of integration of knowledge to achieve synthetic understanding | - Shows moderate understanding of ideas, concepts, themes, content  - Some evidence of integration of knowledge to achieve synthetic understanding | - Shows considerable understanding of ideas, concepts, themes, content  - Clear evidence of integration of knowledge to achieve synthetic understanding | - Shows thorough understanding of ideas, concepts, themes, content  - Integration of knowledge to achieve synthetic understanding readily apparent |
| **Thinking/Inquiry**  - thesis statement  - analysis/interpretation  - inferences  - use of textual evidence | - Text contains no clearly stated evidence to support thesis  - Develops ideas with minimal logic and critical analysis  - Minimal inferences made  - Incorporates minimal relevant evidence | - Text contains thesis evidence that is vague and unoriginal  - Develops ideas with some logic and critical analysis  - Some inferences made  - Incorporates some well-chosen relevant evidence | - Text contains clear thesis evidence components, some of which need deeper thought  - Develops ideas with considerable logic and critical analysis  - Multiple inferences made of varying effectiveness  - Incorporates considerable well-chosen relevant evidence | - Text is focussed on clear, original and challenging thesis evidence components that have real potential to make novel contributions to farming practices  - Develops ideas with a high degree of logic and critical analysis  - Highly effective inferences made  - Incorporates highly effective and well-chosen relevant evidence |
| **Organisation/ Structure**  - thesis linkage  - introduction, body, conclusion  - transitions | - Little progression of ideas  - Minimal structural organisation  - Resembles a written form of speech | -May have abrupt or illogical shifts and ineffective flow of ideas  - Some clear signs of logical organisation, but conclusion fails to address thesis adequately  - Linkages weak in many places | - Sequence of ideas generally appropriate to thesis  - Organisation supports thesis and purpose with conclusion referring directly to thesis  - Some effective transitions | - Logical flow of ideas is well-suited to thesis  - Clear introduction, body and conclusion that that together achieve a unity of purpose in relation to the thesis  - Effective transitions |
| **Application**  - language conventions  - citations, references | - Applies grammar, usage, spelling and punctuation with limited accuracy and effectiveness  - Follows required style for few citations and references | - Applies grammar, usage, spelling and punctuation with some accuracy and effectiveness  - Follows required style for some citations and references | - Applies grammar, usage, spelling and punctuation with considerable accuracy and effectiveness  - Follows required style for most citations and references | - Applies grammar, usage, spelling and punctuation with high degree of accuracy and effectiveness  - Follows required style for all citations and references |