BIO 4970: Seminar in Integrative Biology

The science and environmental impact of Food

Instructor
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Office
C132

Office Hours
Monday
Tuesday/Thursday:
Wednesday
2:00pm-3:15
9:30am-12:15pm
9:30-10:45am

Class Meeting Times
Wednesday
1:55pm-4:25pm

Course Overview
Critical analysis of current topics in biology utilizing the primary literature and integrating concepts taught in the Biology Core curriculum. Consideration given to social, ethical, philosophical and/or historical aspects of the life sciences. Format includes student presentations, reading-based class discussion, and library papers.

Prerequisite
You must have completed 20 credits in the Biology Core and have senior status.

Required Text
No required textbook, but various texts will be used that can be found in the library reference section as well as texts available from the instructor.

Course Topic
The topic of this course is the environmental impact and science behind what we eat: FOOD! Specifically, we will be examining the resources and energy required to bring food from the field/animal to our plates and the waste generated by our diet. Papers selected for presentation must be peer reviewed research based, but you can supplement this material with review articles, magazine/newspaper articles, and information from books. You, as a student, can chose to present on any type of food, food industry, or diet. However, here are some examples of potential topics:

1. Genetically modified organisms
2. The carbon footprint of importing food (eg: bananas)
3. Organic versus non-organic produce
4. Bovine growth hormones
5. Environmental impacts of tilling or other agricultural practices
6. Shade versus non-shade grown coffee
7. Vegetarian diet versus meat-based diet
8. Fast food impacts on the environment
9. Chocolate! (or any other food of your choice)

This course meets once a week so we will have multiple presentations during one course section. In addition, we will arrange for a visit(s) to the library for instruction on the electronic databases, ejournals, and EndNote software use. This meeting will be voluntary and will not count toward or against your final grade. The date of the library visit will be announced during the semester and will take place prior to the long oral presentations. Those students that can not make the appointment can seek training at the library at their own discretion.

Note: Plagiarism is the unauthorized use or close imitation of the language and thoughts of another author and the representation of them as one’s own original work. I will scan the electronic versions of both the short and long papers and if plagiarism is found you will receive a failing mark for the course.

Requirements and Grading

The order of presentations will be determined at the first class followed by an addendum to the syllabus. The presentations will be evaluated by both the students and the instructor. Evaluations include the quality of the organization, information, and quality of delivery.

The primary scientific literature will be searched to meet the following goals:

1) Oral Presentation (short): The students will pair up to present and critically evaluate a relevant topic covered in the popular media in a 20-30 minute period. You may choose a newspaper or magazine article, television or radio news broadcast or a book to base your presentation on. Background research in scientific literature is required in order to effectively critically evaluate the topic through a scientific eye. The presentation format can be a “chalk talk”, PowerPoint or both. Each student in the pair must present at least for 10 minutes.

2) Oral Presentation (long): Students will work individually on a long presentation (60 minutes with 20 minutes for discussion). While this talk is based on one peer reviewed research article, it is expected that the background for this presentation is extensive and will include scientifically evaluating popular literature (magazines, books, newspapers, documentaries) in addition to scientific literature. The presentation format can be a “chalk talk”, PowerPoint or both. Background information should be presented in addition to the students’ analysis of the introduction, materials and methods, results, the authors’ conclusions, as well as the students’ own perspective of the research. You are responsible for asking
at least five (5) thought-provoking questions either throughout your presentation or at the end to encourage the class to participate. However, you must keep your presentation moving along to fill the allotted 80 minutes.

3) **Literature Review Term Paper:** The topic of this paper should be that of the long oral presentation. The paper should be a thorough review of the primary literature. The paper should include the following: Title page, abstract, introduction, methods, results, student's conclusions, and references. The paper should be limited to between 20-30 pages and double spaced. The paper should contain relevant data in the results section but points will be subtracted from the grade if figures, tables, etc...dominate the paper. I will require a hardcopy as well as an electronic version via email. Term papers must be submitted by the students to [www.turnitin.com](http://www.turnitin.com) Papers received after the due date will be marked down a full letter grade for each day late.

### Final Grade Based On: Percentage of Final Grade

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Oral Presentation (short)</td>
<td>10%</td>
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<tr>
<td>Oral Presentation (long)</td>
<td>30%</td>
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<tr>
<td>Literature Review Term Paper</td>
<td>30%</td>
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<tr>
<td>Class Participation</td>
<td>20%</td>
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<tr>
<td>Student Evaluations of Presentations</td>
<td>10%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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Your grading is going to be influenced strongly by your participation in class discussions. You must show that you not only attend each talk, but that you pay close attention and not only answer questions, but also ask them! Therefore, if you are absent, you will receive a “0” that day for discussion.

I will assign final grades as follows:

94%    A  
90%    A-  
87%    B+  
83%    B  
80%    B-  
75%    C+  
70%    C  
60%    D  
< 60%  F

**Email Correspondence:** While I will check my email each day, do not expect an immediate response in the evenings or on the weekends.
**Tentative Course Syllabus**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>January 21</td>
<td>Introduction to food</td>
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<tr>
<td>January 28</td>
<td>Corn, corn, and more corn (You must come to this class prepared by reading the article and coming up with questions)</td>
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<tr>
<td>February 4</td>
<td>Research, presentation, and writing methods</td>
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<td>February 11</td>
<td>Pair and present (4 presentations: 8 students)</td>
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<tr>
<td>February 18</td>
<td>Pair and present (4 presentations: 8 students)</td>
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<td>February 25</td>
<td>Individual presentations (2)</td>
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<td>March 4</td>
<td>Individual presentations (2)</td>
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<td>March 11</td>
<td>Individual presentations (2)</td>
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<td>March 18</td>
<td><strong>Spring Break</strong></td>
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<td>March 25</td>
<td>Dr. Shebitz presents</td>
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<td>April 1</td>
<td>Individual presentations (2)</td>
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<td>April 8</td>
<td>Individual presentations (2)</td>
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<td>April 15</td>
<td>Individual presentations (2)</td>
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<td>April 22</td>
<td>Individual presentations (2)</td>
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<td>April 29</td>
<td>Individual presentations (2)</td>
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<td>May 5</td>
<td>Feast!!! <strong>BRING A DISH!</strong></td>
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