Interdisciplinary Research: Bioenergy Focus
BRR 450 CRN XXXX - 2 credits
Winter 2014

Instructors: Kate Field (kate.field@oregonstate.edu), Bioenergy Minor Director
Jay Well (jay.well@smile.oregonstate.edu), Bioenergy Minor Coordinator

GRAs: Kimi Grzyb (grzybk@onid.orst.edu)
Shawn Freitas (freits@gmail.com)

Time: Wednesdays 6:00pm - 7:50pm. This course combines approximately 60 hours of instruction, activities and assignments, for 2 credits.

Location: TBA

Office Hours: By appointment.

Prerequisites: None.

Course Description:
Bioenergy research presentations and papers introduce scientific inquiry, the research process, research seminars, papers and proposals. Analysis of different disciplines’ approaches to research tools and data sources (e.g., quantitative versus qualitative approaches). Student teams write research proposals. Second core class in the Bioenergy Minor.

Learning Resources:
There are no required texts to purchase for this course.
The Writing Center (http://cwl.oregonstate.edu/): half-hour appointments with a writing assistant are available in Waldo 123 from 9-4 on M-F (call 737-5640). Students may also submit work-in-progress to the Center's Online Writing Lab (http://cwl.oregonstate.edu/owl.php). The Valley Library writing desk is available for evening and Sunday appointments by signup or by calling 737-8385.
Library Course Guide: http://ica.library.oregonstate.edu/course-guide/3471
Grammar/writing help and tutorials: The Penguin Handbook Common Errors Workbook (http://wps.ablongman.com/long_faigley_penguinhb_1/7/1976/505968.cw/index.html) has exercises to help you learn to identify and correct common grammatical errors. If you frequently make certain writing mistakes, you can do the relevant exercises and learn the grammar rules.

Learning Outcomes:
After taking this course, students will be able to:
• evaluate research talks, papers and studies, explain the scientific issues addressed, discuss ethical considerations, and assess the conclusions.
• explain the research process, including quantitative and qualitative research methods and the use of evidence.
• describe key components of a research proposal.
• effectively use the library and writing resources on campus.
• suggest multidisciplinary approaches to solving bioenergy problems

**Evaluation of Outcomes:**

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
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<tbody>
<tr>
<td>Three <em>Basic Research Concepts</em> homework assignments (50 pts each)</td>
<td>150</td>
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<tr>
<td>Library assignment</td>
<td>50</td>
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<td>Bioenergy Current Event in-class presentation</td>
<td>50</td>
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<td>In-class assignments:</td>
<td>150</td>
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<tr>
<td>- The Experiment (50)</td>
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<td>- Reading a Research Paper (50)</td>
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<td>- Descriptions of Qualitative and Quantitative Research (50)</td>
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<td>Designing and carrying out qualitative research Part I, Part II (50 pts each)</td>
<td>100</td>
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<tr>
<td>Two short papers on research presentations (100 pts each)</td>
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<tr>
<td>Research Proposal</td>
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<tr>
<td>- Choose problem</td>
<td>10</td>
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<tr>
<td>- References</td>
<td>50</td>
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<tr>
<td>- Research proposal outline</td>
<td>50</td>
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<tr>
<td>- Proposal first draft</td>
<td>40</td>
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<tr>
<td>- Proposal final draft</td>
<td>100</td>
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<tr>
<td>- Presentation</td>
<td>50</td>
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<tr>
<td>Proposal Total</td>
<td>300</td>
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**Total Points** 1000

**Extra Credit:** Visit the Writing Center 10

**Short description of assignments:** *Detailed assignment will be provided as needed on Blackboard.*

**Library Assignment:** Attend an in-class presentation by a research librarian. Complete the assignment she will give you and turn it in to her for grading.

**Bioenergy Current Event:** Select a news story related to Bioenergy and research its background and any related controversies. Give a short (7 minute) in-class presentation explaining your event.

**Short papers on faculty research presentations:** Choose two of the faculty research presentations. Write a 2-page paper covering the background to the research, the rationale for the research and approach, important results, and the overall significance of the research. Detailed assignment will be provided.

**Research proposal:** You will be assigned to an interdisciplinary team. Your team will select an interesting topical Bioenergy problem or need, and the rest of the Research Proposal assignments will be based on this problem. Both team and individual assignments. Detailed assignments will be provided.
Extra Credit: Writing Center: For one of the papers (your choice), visit the Writing Center for assistance. Bring a copy of the assignment, along with your draft, for the writing assistant to read. Hand in the signed slip documenting your visit along with your paper. Hint: to get the most benefit, do this in time to get some real help (not the day before it’s due), and do it for one of the earlier assignments.

Instructor’s Expectations: Students are expected to attend class and participate in all discussion and assignments. During class, students may not use cell phones or send text messages. Students may not use computers for any other purpose than to take notes for this class. Students may not do work for other classes in this class.
The syllabus and schedule will be updated on BlackBoard; it is the student’s responsibility to check for updated assignments. The instructor reserves the right to modify the course content, schedule of assignments, and/or evaluation procedures as determined necessary. It is the student’s responsibility to alert the professor if s/he can’t attend class or arrive on time, and to officially withdraw from any class that s/he ceases to attend. Failure to do so will result in the recording of an “F” grade. Please note that late work will only be accepted upon agreement of the Professor and with a grade penalty.

Statement Regarding Students with Disabilities
Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 737-4098.

Link to Statement of Expectations for Student Conduct
http://oregonstate.edu/admin/stucon/achon.htm “Students are expected to be honest and ethical in their academic work. Academic dishonesty is defined as an intentional act of deception in one of the following areas:
* cheating- use or attempted use of unauthorized materials, information or study aids
* fabrication- falsification or invention of any information
* assisting- helping another commit an act of academic dishonesty
* tampering- altering or interfering with evaluation instruments and documents
* plagiarism- representing the words or ideas of another person as one's own”

If you have a question about use of sources or anything else, consult the instructor. The instructor will check written assignments for plagiarism from the Web. The student conduct web site, http://www.orst.edu/admin/stucon/achon.htm, explains academic dishonesty.
<table>
<thead>
<tr>
<th>Date</th>
<th>Due</th>
<th>In Class</th>
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| Week 1 | | 1. Course introduction  
2. How to give a presentation. Using visuals.  
3. The experiment: in class discussion. Hand in answers to questions. |
| Week 2 | Basic Research Concepts: read: Introduction; What is Research; and Research Design. Hand in first homework assignment. Look through research papers provided on Blackboard; choose one and read it. Come prepared to discuss. | 1. Reading a Research Paper in a Scholarly Journal: in class discussion. Hand in answers to questions.  
2. Research presentation: TBA |
| Week 3 | Bioenergy current events presentation Bring index card with two choices for research proposal project | 1. Hot topics in Bioenergy: current events presentations (individual)  
2. Choose and hand in your team’s proposal topic. |
2. Work on finding project references in library |
| Week 5 | Hand in References Basic Research Concepts: read: Methods of Information Collection; and Handling Information. Look through Additional Sections. Hand in third homework assignment. | 1. Introduction to qualitative research: Dr. Dwaine Plaza, Sociology  
2. In-class: Description of quantitative and qualitative research. Hand in paragraphs describing the research. (team) |
| Week 6 | Hand in Outline of your proposed research (for proposal) | 1. Qualitative Research (I) In-class work on surveys; hand in survey draft.  
2. Research presentation: Graduate Student Panel |
| Week 7 | Hand in Short Paper 1* Outline returned Bring data collected to class | 1. Qualitative Research (II) Present survey results.  
2. Research presentation: TBA |
| Week 8 | First draft proposal due | 1. In-class critiques of proposal drafts  
2. Research presentation: TBA |
| Week 9 | Hand in Short Paper 2* Proposal draft returned | 1. In class: work on research proposal presentation  
2. Research presentation: TBA |
| Week 10 | Final proposal due Prepare a presentation of proposal | In class proposal presentations  
Peer review |