IB 299 Introduction to Undergraduate Research in Integrative Biology

2 Credit Hours

Professor Ken N. Paige
School of Integrative Biology
Office: Room 481, Morrill Hall
505 S. Goodwin, Urbana
Office hours: by appointment, email: k-paige@illinois.edu

Course Goals:
1. Introduce you to the practice of scientific research through hands-on experience and direct faculty interaction.
2. Expose you to the diversity of research topics, methods and careers in Integrative Biology.
3. Practice the steps involved in devising, planning, executing and presenting a scientific research project.
4. Follow the path of knowledge generation, from the research project to the primary literature to the textbook and society.

Seminar: Mondays 4-5 pm
• We will meet weekly and have directed discussions focused on the various aspects of the research process.
• Attendance is required at all seminar sessions. If you have a conflict with any of these sessions, contact the course coordinator as soon as possible.

Research
• Each student will be assigned to a faculty advisor. Students will work three hours each week on the research project, and have regular contact with their faculty advisor. The organization of research roles in each team is at the discretion of the research advisor.
• We will make every effort to match you with the faculty advisor of your choice, but it is likely that some students will not be matched with their top choice.
• Research teams will present their research results in a symposium on December 11, from 4-5pm. Each presentation will last 12 minutes, and will be followed by 3 minutes for questions from students and faculty.

Emergencies

General Emergency Response Recommendations
Run>Hide>Fight Video
Building Emergancy Exits

Academic Integrity
According to the Student Code, `It is the responsibility of each student to refrain from infractions of academic integrity, from conduct that may lead to suspicion of such infractions, and from conduct that aids others in such infractions.' Please know that it is my responsibility as an instructor to uphold the academic integrity policy of the University, which can be found here: http://studentcode.illinois.edu/article1_part4_1-401.html.
Disability Accommodations

To ensure that disability-related concerns are properly addressed from the beginning, students with disabilities who require assistance to participate in this class are asked to see me as soon as possible.

Lecture

August 28 - Course Introduction
September 4 - No Class – Labor Day
September 11 - Faculty Project Presentations/Student Selection
September 18 - Discussion Assignments - Why do you want to do research?; Nature of Science - questions/discussion
September 25 - Discussion/Assignments – Science or pseudoscience?; Reading Scientific Literature
October 2 - Critiquing Scientific Literature – Reading Assignment/Questions/Discussion
October 9 - Describe Your Groups Research Mentor’s Biography; Mentor/Mentee Contract
October 16 - Assignments - Reference Letter; Three Profs Exercise; When Problems Arise
October 23 - Writing a Grant Proposal Proposal Introduction – Assignment
October 30 - Presentation – Research Ethics
November 6 - Careers in Biology – Presentation Proposal Introduction/Methods – Assignment
November 13 - Grants and Fellowships – Funding - Assignment Proposal – Broader Impacts – Assignment
November 20 - Thanksgiving
November 27 - Peer Review of Proposals
December 4 - Giving a Scientific Presentation
December 11 - Research Group Powerpoint Presentations on Semesters Research Projects
Grading

Your grade in this course will be based on completion of pre-seminar worksheets, participation in seminar discussions, research participation and your research presentation. Further details about the assignments will be provided throughout the semester.

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<tr>
<th>Assignment</th>
<th>Points</th>
<th>Final Grade</th>
<th>Course Points Earned</th>
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<tbody>
<tr>
<td>Worksheets</td>
<td>50</td>
<td>A</td>
<td>270-300</td>
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<tr>
<td>Discussion Participation</td>
<td>50</td>
<td>B</td>
<td>240-269</td>
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<tr>
<td>Research Participation</td>
<td>100</td>
<td>C</td>
<td>210-239</td>
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<tr>
<td>Research Presentation</td>
<td>100</td>
<td>D</td>
<td>180-209</td>
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<td><strong>Total</strong></td>
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