ABIO 399/499 Syllabus
Supervised Research For Juniors & Seniors
Dr. Robert Osuna, Coordinator ~518-591-8827 ~ rosuna@albany.edu ~ Life Sciences 2062

Course Description: ABIO 399/499 Supervised Research for Juniors (1-3 credits) Seniors (1-4 credits). Conduct research on selected topics in biology. A research paper will be required at the end of each semester. Students taking two or more semesters of ABIO 399 OR 499 will make a poster or oral presentation at the Annual Research Symposium. Students completing departmental honors, are required to give an oral presentation.

Course Objectives: ABIO 399 & ABIO 499 are intended to engage students in a specific field of research by using the scientific method of investigation. Students will learn to design experiments to test a hypothesis, learn to execute experiments, analyze results and arrive at conclusions. Students will communicate their findings through a written report at the end of each semester and by a presentation at an annual research symposium.

Pre-Requisites: ABIO 399 & 499 do not have stated pre-requisites; however, individual supervisors may request that students have completed course work in specific areas such as genetics, molecular bio, chemistry etc.

Course Fulfillment:
- 4 credits over 2 semesters in these courses may be used to fulfill one upper-level lab requirement.
- A Maximum of 6 credits in ABIO 399 and; 8 credits in ABIO 499 may be earned. However, ABIO 399/499 may only contribute a total of 4 credits toward the biology major.
- Academic Integrity: See http://www.albany.edu/undergraduate_bulletin/regulations.html

Student Expectations: While not easy to evaluate this experience with a single letter grade, a level of consistency and fairness in grading may be achieved by considering, similar evaluation criteria.

- Time: University regulations state: 3 hours of work/ per week/ per credit in the Fall/Spring Semester or 8-10 hours/ week/ credit in the Summer session. If a student is able and willing to devote more time per week, he or she may do so. At times during the semester, students may need more time to study for exams, which may temporarily affect their availability for research. However, students should discuss this with their supervisor, and plan to make up this time in other weeks.
- Training: Students are expected to make reasonable progress in responding to lab training by learning and correctly executing the required laboratory techniques.

Biology Safety Training: The first time students register for undergraduate research (Bio399 or Bio499), they are required to complete an online Biology Safety Training (https://www.citiprogram.org/) in order to obtain permission to register. Student participation and completion will be tracked.

Motivation: Students are expected to show genuine interest in, and become intellectually involved, in their research problem. This may be demonstrated by:
- Completing assigned readings for their research (e.g. advanced textbook chapters, published papers, lab theses, etc.)
- Being prepared for any lab presentations (at least one presentation per semester would be appropriate, where the student may receive feedback from the various lab members)
- Questions asked and interest in discussing the research with their supervisor.
- Level of responsibility and dedication toward their experiments.

CONTINUED ON PAGE 2
Data Collection
Students are expected to maintain a well-kept lab notebook, containing accurate and detailed notes regarding each experiment, data collected, and conclusions arrived at. It should be organized, neat, and legible.

- **A RESEARCH PAPER IS REQUIRED FOR EACH registration** of this course:
  - Papers are submitted to the mentor for grading. Graded papers are then emailed to nroberts2@albany.edu
  - There is no set length for this paper; however, it should follow a scientific publication format, **and must include**
    - Project Title and Student’s name **AND**
    - **Introduction** (with cited references within the text)
    - **Materials and Methods** (with cited references within the text)
    - **Results** (including relevant data and figure legends)
    - **Discussion** (with cited references within the text)
    - **References**
  - **AN ELECTRONIC copy of the paper is required with the Application form as the cover sheet (sent from the Research Instructor) 1 week after the last day of classes each semester**
  - Supervisor should email the paper and letter grade to nroberts2@albany.edu, (cc to rosuna@albany.edu)
  - A letter grade will not be entered without the research paper. In absence of a paper by the deadline, a grade of incomplete will be assigned. A supervisor may request (via email to Robert Osuna rosuna@albany.edu) to assign a grade of incomplete. A grade on incomplete will be granted for one semester only.

Annual Symposium
- Participation in the Biology annual research symposium (Oral or Poster Presentation) is REQUIRED After 2 registrations in (ABIO 399/499). The presentation is typically held on the last Friday of April.

Final Grade
- The final grade should take into consideration **all of the Student Expectations (above)**. A grade inferior to “A” is acceptable, if one or more of the criteria are less than excellent.
- A student’s grade **should not be issued on the basis of the results of their experiments** (as experimental results are unpredictable by nature).
- It is a good idea to discuss these and other expectations with a student at the beginning of each semester, and to discuss their progress regularly throughout the semester.
- Incomplete grades are discouraged, **but may be requested** of the research mentor, **prior to the last day to submit grades each semester**.

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<tr>
<th><strong>Suggested Course Grade Range for ABIO 399/499 components</strong></th>
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<tr>
<td><strong>Evaluation Criteria</strong></td>
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<td>Amount of Time Devoted</td>
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<td>Response to Training</td>
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<td>Motivation</td>
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<td>Data Collection</td>
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<td>Research Paper</td>
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Submit to Biology Main Office No Later than, the Last Day to DROP/ADD each semester.

### Student Contact Information:

<table>
<thead>
<tr>
<th>First &amp; Last Name:</th>
<th>Student ID:</th>
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<tbody>
<tr>
<td>UAlbany Email:</td>
<td>Phone:</td>
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### Previous Registration: If you have previously taken ABIO 399 OR ABIO 499 write the year, semester, and no of credits below

<table>
<thead>
<tr>
<th>Course No:</th>
<th>No of Credits:</th>
<th>Year:</th>
<th>Semester:</th>
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### Current Registration Information:

<table>
<thead>
<tr>
<th>Enter Year</th>
<th>Enter Semester</th>
<th>Enter Course choose between ABIO 399 or ABIO 499</th>
<th>No. of credits (when registering select desired credits) Juniors, 2-3; Seniors, 2-4 credits</th>
<th>Class # (office use only)</th>
<th>Permission # (office use only)</th>
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### CITI Biosafety Training

Students please be advised the CITI "Basic Biosafety Training" must be completed before a permission number will be assigned. You can complete this training by creating an online account at: [https://www.citiprogram.org/](https://www.citiprogram.org/). Once you complete the training along with this application, please email an electronic copy (preferably a PDF version) to biology@albany.edu.

Completed: Yes [ ]

### Supervisor Contact Information:

(sign your name as an agreement that you will supervise the student in the lab at all times)

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<thead>
<tr>
<th>First &amp; Last Name:</th>
<th>Affiliation:</th>
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<tbody>
<tr>
<td>Department:</td>
<td>Room No:</td>
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<td>Phone:</td>
<td>Email Address:</td>
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Supervisor Signature:

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<tr>
<th>Final Grade:</th>
<th>Supervisor Signature:</th>
<th>Date:</th>
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Dr. Robert Osuna, Coordinator ~ rosuna@albany.edu ~ LS206
Biology Office ~ biology@albany.edu ~ Bio126