

**University of Georgia
Department of Plant Biology**

**Application for PBIO 4960R Course Approval and
Plant Biology Undergraduate Research Support Award**

STUDENT INFORMATION

Student Name: _____ Student ID#: _____

Semester & Year of Research: _____ Major: _____ Graduation date: _____

Telephone No: _____ UGA Email Address: _____

Project Title: _____

Four (4) credit hours are required for PBIO 4960R. Each credit hour equates to 3 contact hours/week

Note:

Complete this form and return it to Dr. Chang-Hyun Khang, Department of Plant Biology (may be e-mailed as an attachment to ckhang@uga.edu or put in the mailbox at Room 2502 of Miller Plant Sciences Bldg) to obtain POD for registration of PBIO 4960R. This form must be submitted to, and approved by, Dr. Khang before a CRN for the course will be assigned to you.

Description of Proposed Research Project

1. Description of research background and goals:

2. Description of hypotheses, technical approaches, expected outcomes, and significance of the research:

I agree that I will:

- A) work 12 hours/week on the proposed research
- B) submit a research paper electronically no later than 5:00 PM of reading day to my faculty mentor and *ckhang@uga.edu*.

I understand that I am being strongly encouraged to present a poster at a UGA venue (CURO, Plant Center Retreat, P BIO fall symposium, etc.) at the end of the project and within one year of the work, and acknowledge Plant Biology Undergraduate Research Support Award when presenting results.

I have read and understand the requirements for this research course and acknowledge that I must follow the stated guidelines detailed in this agreement in order for me to receive credit for this course.

(Student Initial)

=====

FACULTY SPONSOR INFORMATION

Faculty Sponsor Name: _____

Department: _____ Title: _____

Telephone No: _____ UGA Email Address: _____

I understand that I (faculty) must assist and guide the student in the preparation of a project description that is up to two pages long and includes research background, goals and/or hypothesis, technical approaches, expected outcomes, and significance.

(Faculty Initial)

I understand that I must mentor the student through completion of a research paper at the end of the project that is due from the student by 5:00 PM of reading day, and that my grade for the paper must be submitted at the end of the semester, or else the student will receive a grade of Incomplete (I).

(Faculty Initial)

I also understand that I will strongly encourage the student a give a meeting presentation (talk or poster) at a UGA venue (CURO, Plant Center Retreat, P BIO Student Symposium, etc.) within one year of starting the research, and provide guidance to the student in its preparation.

(Faculty Initial)

=====

Student Signature

Date

Faculty Sponsor Signature

Date

Dr. Chang-Hyun Khang (P BIO Undergraduate Coordinator)

Date

=====

Course Description

This course is 4 credit hours and affords interested undergraduate students the opportunity to engage in laboratory research and work on a research project under the direction of a faculty member here at the University of Georgia. Students registered for this course may not receive payment for the research unless they have earned a fellowship stipend.

Plant Biology majors may also use this course to satisfy either their Major Laboratory requirement or one of their Major Elective requirements. Please note that only the first semester of the course (P BIO 4960R) will count towards the completion of Plant Biology major requirements and that any additional semesters (i.e., P BIO 4960R/4970R/4980R) will NOT count towards the major but rather as a General Elective. Any of these courses will count towards UGA's experiential learning requirement.

If you perform research for multiple semesters in the same laboratory, you will register for P BIO 4960R, 4970R, and 4980R, respectively. If you perform in DIFFERENT laboratories each semester, you will register for P BIO 4960R each time.

Course Requirements

1. Research must be plant biological or fungal in nature for the course to be approved. Areas which may qualify include: cellular biology, molecular biology, biochemistry, fungal, organismal biology, genetics, bioinformatics. Dr. Chang-Hyun Khang, the Plant Biology Undergraduate Coordinator, will determine whether the research qualifies.
2. A signed "Faculty/Student Agreement for Plant Biology Research" must be submitted to Room 2502 in Miller Plant Sciences Bldg by 5:00 PM on the last day of drop/add each semester.
3. Once the form has been signed and approved, the student will be emailed a section number (CRN) to register for the course.

4. Students must complete at least 12 hours of work per week (i.e., conducting background research, reading/writing manuscripts and reports, and conducting experiments in the laboratory) for a total of 180 hours per semester.
5. Students are required to submit a research paper via electronic submission by 5:00 PM of reading day. Papers should be emailed to *ckhang@uga.edu*. The Plant Biology program requires a paper even if the Faculty Research sponsor does not. Students who do not submit a paper will receive a grade of Incomplete (I). See attached guidelines for details on the final paper.

CURO/HONORS

Students in Honors will get automatic Honors credit for the PBIO 4960R, 4970R, and 4980R courses. No additional paperwork or approvals by CURO/Honors are necessary.

PBIO 4960R FINAL PAPER REQUIREMENTS

The final paper is due to the Plant Biology program no later than Reading Day of the semester enrolled.

Please email your paper to *ckhang@uga.edu*. A hand-delivered, hard copy will not be accepted.

Example research papers can be found at <http://biosciences.uga.edu/forms>

Paper Guidelines:

- 4-page minimum & 5-page maximum (not including the title, reference pages, tables/figures).
- Typed in 12-font, Times New Roman with 1-inch margins, double-spaced.
- In-text citations should be formatted as follows: (Author Last Name, Year)
Example: The immune system plays an essential role in protecting the body, as one of its main roles is the clearance of viral antigens (Thibodeau, 2005).
- The paper must consist of a single .pdf or .docx with all figures incorporated into the document. If your paper requires an Appendix, include this section following the References. Papers submitted as multiple documents (e.g., PowerPoint slides) will be returned.
- The paper must contain the following sections:
 - Title Page: Must include the following information
 - Research Title
 - Faculty Mentor Information: Name, Department, Email, and Phone Number
 - Student Information: Name, Address, Email, and Phone Number
 - Semester and year research was done
 - Course Number (i.e., PBIO 4960R; PBIO 4970R)
 - Objective(s): State your purpose for doing the project in a succinct manner.
 - Abstract: Write a concise summary of the project in 200 words or less.
 - Introduction: Discuss the background and rationale behind the project.
 - Materials/Methods: State your methods (in paragraph form, *not* as an ordered list) in enough detail that others could repeat them exactly.

- Results: Concisely state your results. Include figures and tables where appropriate.
- Discussion: Discuss your results, your conclusions, study limitations, and possible future directions.
- References: List of references to the scientific literature that supported your research.

- References should be ordered alphabetically and in the following format:

Last-name First-initial. Title of paper. Journal Name. Year of Publication;
Volume (Issue): page-numbers.

Example: Cox J, Engstrom RT. Influence of the spatial pattern of conserved lands on the persistence of a large population of red-cockaded woodpeckers. *Biological Conservation*. 2001; 100(1): 137-150.

Plant Biology Undergraduate Research Support Award

Goals:

- Enhance the undergrad research experience for PBIO Majors and Minors and provide the opportunity for PBIO Majors and Minors to present research at local conferences.
- Provide supply money to facilitate faculty sponsorship of PBIO independent research in our labs (PBIO 4960R).

Eligibility: Declared PBIO majors (including dual majors) or minors taking PBIO 4960R/4970R/4980R/4990R for 4 credits.

Award period: Spring, Summer and Fall semesters.

Award amount: \$500 in supply money provided to *PBIO faculty mentor* at the beginning of the independent research semester for credit, to be used for supplies or travel for the undergraduate project within 1 year of the start of the independent research semester.

Restrictions:

- Restricted to PBIO regular and adjunct faculty eligible as instructor of record.
- An individual undergraduate student can be sponsored for up to 2 semesters of support.

How to apply:

- The undergraduate student should first find a PBIO faculty who will sponsor PBIO 4960R undergraduate research (see PBIO webpage for research areas of PBIO faculty; students may approach faculty directly or come to see Dr. Chang-Hyun Khang if guidance is needed), and then fill in the PBIO 4960R course approval form and turn it in to Dr. Khang to obtain POD for registering PBIO 4960R.