

**Indiana University of Pennsylvania
Biology Department**

Dr. N. Bharathan: Internship Coordinator bharathn@iup.edu 724-357-2584

BIOL 493 Biology Internship variable-3-6cr OFFICE : WEYANDT 114

Prerequisites: Biology major with at least 57cr, 2.5 cumulative GPA, and permission of the director of internships and the chairperson. Selected students have opportunity, under department supervision, to gain off-campus practical experience in area of interest. Only 6cr may be applied toward major; total number of credits is decided in consultation involving student, his/her advisor, and director of internships (Dr. N. Bharathan)

Goals and Objectives

The internship is a practicum and an integral part of the professional program both in biological research and public health. The primary goal of the course is to provide biology students with an opportunity to integrate the knowledge and skills acquired in the classroom and academic laboratory into the professional world outside academia, and to develop a better understanding of the applications of biology. **The internship program generally last for 150 (120 +30) (3 credits) to 300 (240 +60) (6 credits) clock hours and provide 3-6 hours of undergraduate credit.** Practical field experiences complement and support the learning process in the classroom. They provide the student with an opportunity to apply knowledge and skills in a variety of work situations and to test new approaches and techniques in solving problems. When properly planned, the practicum is a meaningful learning experience that contributes positively to the student's professional development.

Suggested Steps to Follow if Interested in Internship

1. Understand the nature and requirements of the Internship class (BIOL 493)
2. Explore internship opportunities by contacting:
 - o Supervisors and students with recent internships
 - o Career Development Center
 - o Internship Director
 - o Biology faculty
3. Have a preliminary proposal outline to Internship Director before registration

Internship Requirements: To earn credit for an internship, the student *must*:

1. Obtain approval in advance from the department's internship director
2. Complete the application forms provided and turn them in before starting the internship. This description must include contact information for the organization providing the internship.
3. Register for the internship by signing up for BIOL 493
4. Maintain an Internship Journal
5. Email a Bi-weekly one-page report to the internship director
6. Complete and deliver to the Internship Director the Internship Journal, & Closeout Report or Presentation

Policies Governing the Internship

Requirements: Student must complete all of the requirements listed above. A student can receive a failing grade if any of the requirements are missing from the internship file.

Deadline:

- Final closeout reports are due one week before or one week after the end of the period during which you intern.
- Students will be penalized and may receive a failing grade for the internship if your closeout report fails to be provided to the internship director one week before or after the end of that time. For example, you do the work of your internship during ten weeks of summer from June 8 to August 1. You must get the closeout report to the internship adviser by July 24 or August 8^t. This deadline is important because summer internships tend to have flexible schedules that do not conform to the regular semester dates. Therefore, you are required to get that closeout report to the internship adviser one week before or one week after the end of your internship regardless of the semester during which you register for it.

Delays: All delays must be negotiated in advance with the internship adviser.

Internship Director: The internship Director is Dr. Narayanswamy Bharathan. You can reach him at 724-357-2584 or by email BHARATHN@iup.edu

Bi-Weekly Reports The bi-weekly report should be no longer than one page. In it, you should report the hours you have worked, the projects you have completed, and the projects you are working on. You should also discuss what you have learned. E-mail the report to Dr. Narayanswamy Bharathan at BHARATHN@iup.edu. Save copies of your bi-weekly reports; you will need them for the final closeout report.

Internship Journal The student is required to maintain a journal of internship activities. The journal is a bound notebook in which the student records in a very legible form the following kinds of information on a daily or weekly basis: (1) observations, (2) activities, (3) summaries of readings, (4) results of investigations, (5) conversations, (6) vocabulary, (7) reflections. All entries must be made in a timely manner and dated accordingly.

Significant amount of detail (hours worked, tasks undertaken, jobs accomplished, learned information or techniques, data collected, etc.) should go into the journal.

Closeout Report and Presentation:

Please follow the following format:

Your closeout report should be written as a memo to the Internship Director at IUP. You might report on:

- the name and type of organization/institution/firm/laboratory/ research facility, what they do
- what specific projects/duties you worked on
- what you learned, and what your observations are about the internship
- a summary of your main tasks and accomplishments during the internship
- a summary of learning that occurred during the internship
- an analysis of the overall impact of the internship on your experience as a Biology Major/Health professional
- a personal view as to the suitability of the organization for future interns (would you recommend this internship to others)?
- How have you grown or changed as a result of this experience? If possible, include a sample of your work with the closeout report
- **Closeout report should be at least 8-10 pages. Double-spaced with 5-10 references**

OR

Make a presentation (20-30 minutes) (Medical Student Club) summarizing the experience and detailing scientific foundation and results of the experience that increase the value of the internship. Your presentation should have the format like the closeout report below.

Closeout Report

Students are required to submit a report/research paper of their experience/biological research related to his or her internship area: identify a specific issue or problem that is the subject of research in your internship field; read the work of several authors in the primary literature who are investigating that problem; use the evidence from those papers to describe the progress towards reaching a solution to the problem. The paper must be clear in its focus including the following:

- 1. Title of the Internship**
- 2. A well-developed introduction** - The introduction should provide background information leading up to the problem. Be sure to identify the specific question, issue, or problem that is the subject of the research, and describe the significance of the work.
- 3. Text** - Provide a thoughtful discussion of the results and findings related to the problem. Use data, figures, and tables to support the information in the text. It is important not to simply summarize references for the text of the paper, and to avoid the use of direct quotations, unless it is absolutely necessary. The information included in the body of the paper should be logically organized. For the sake of clarity, the paper should be divided into relevant categories under appropriate subheadings.
- 4. Conclusion** - It is expected that the student will build his own case for the paper, based on his analysis and interpretation of the information obtained from the literature sources.
- 5. Literature Cited** - Do not use footnotes. Literature sources should be cited in the text according to the procedure used for a scientific paper. At the end of the paper, references cited are to be listed under a section designated Literature Cited. The research paper should have a minimum of five, and no more than ten typed, double-spaced pages of text, exclusive of illustrations. In addition it should include the work from at least two primary literature sources, and a minimum total of five references. It is due on the last day of classes for the semester during which the internship is taken.

Evaluation: Final Evaluation and grading of student work will be done by Dr. Narayanaswamy Bharathan (Internship Director). Please submit all reports and evaluation materials. Dr. N. Bharathan. He can be reached at 724-357-2584 or by email BHARATHN@iup.edu. Office 213 Weyandt,

Grading Procedures:

The final grade for the intern will be determined by the Internship Director. It will be based on – 20%, the Internship Journal – 60%, the Closeout Report/Presentation - - 20%, bi-Weekly Reports.

The grade will be based on a ten-point scale: 90-100=A, 80-89=B, 70-79=C, 60-69=D.

