

## INDEPENDENT RESEARCH PROJECTS IN BIOLOGY FOR COURSE CREDIT (BIOL 499)

The Biology Department encourages students to do an independent research project during their junior or senior year. Students who opt to do so should possess initiative and interest, have adequate course background, and show evidence of strong conceptual knowledge in the area of the research. The project must be a course grade preparatory. Students who do not count towards the biology major) and a grade given by the Hendrix biology instructor who supervised the project. The Biology Department has good potential for independent studies both on and off campus and can fulfill the needs of most projects. Faculty members can be of great help in formulating such projects. Faculty should be consulted early for ideas, approaches, and planning. Results that have sufficient merit should be presented at professional meetings or other appropriate scientific forums. Course credit may be given for a maximum of two independent research project:

related to the area of interest of a  
project that is independent of work  
the Biology Department to award  
related requirements for each

### THE COURSE

In the following year), students should select  
oversee the research project and act  
research is to be supervised in an  
project and turns in the final paper  
and assign a grade for the course.

is directly related to the area of  
consult that faculty member who  
The research proposal must be  
department by one of the two formal  
projects starting in the Spring  
projects starting in the summer or Fall  
Department, will then decide

ent of work conducted by a  
proposal to their selected advisor and

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to the Department before the start of the Independent Research. Projects cannot be initiated without this proposal. These proposals will generally include a more comprehensive and detailed description of the research to be conducted than those prepared for research that is directly related to a Hendrix faculty's area of interest (see "a" above). Along with other important information necessary for the assessment and

commencement of the project, this proposal defines the formal research requirements for

Under some circumstances a student may petition the department to award Independent Research credit for research already completed or in progress. Under such circumstances a similar petition procedure will be required of the student and biology faculty advisor. Hendrix faculty co-advisors and off campus co-advisors are urged to have a conference call or meeting including the student in order to insure that there is a clear understanding of all expectations and a process for evaluation of the project.

- 2) While the research is being conducted, students should meet regularly with their advisor to discuss and assess the progress of the research. Such discussions may involve changes in design, direction, or nature of the project from the original proposal. On the basis of these meetings, the student and advisor may modify the original research requirements.
- 3) The final course requirements are:
  - a. The preparation of a formal research report. This report must be typed and organized in appropriate scientific format. Such format usually includes an abstract, introduction, materials and methods, results, discussion and literature cited sections. Depending on the student's own knowledge and skill in scientific writing and on the nature of previous editing, one or more revisions of this report typically will be required.
  - b. Submission of a journal documenting the day-by-day research activities, including a summary of seminars attended or other scholarly activities related to the research project.
  - c. An oral or poster presentation of the research to the Biology Department (such as a Senior Seminar) and/or at a *bona fide* scientific meeting, such as the National Conference on Undergraduate research (NCUR), the Arkansas Academy of Sciences, etc...

### **INDEPENDENT RESEARCH WITHOUT COURSE CREDIT**

Students may be interested in doing projects of a truncated or exploratory nature that will not count for course credit. Within the realm of available faculty time, space and materials, the Biology Department encourages such independent research. Students are encouraged to approach individual faculty members from the Biology Department to inquire about opportunities for research without course credit.