

## **RESEARCH EXPERIENCE AT PROVIDENCE COLLEGE**

All biology majors are encouraged to participate in some form of experiential education (Internships, Research or Field Schools). Among the opportunities available to students is a research project supervised by a faculty member of the Department of Biology, a faculty member of an accredited college, or university or a professional actively engaged in research in industry. The research experience at the undergraduate level attempts to,

- a) develop critical thinking skills,
- b) develop the students ability to synthesize information from a variety of disciplines,
- c) to conceptualize, initiate, execute and revise a research protocol to derive new and original information,
- d) work independently, and
- e) communicate the results of their work using professional standards, i.e., the publication of a technical paper and/or formal presentation of their research results (oral presentation or poster).

### **Research Experience Checklist**

- 1) A student interested in a research experience should approach the faculty member he or she wishes to work with and discuss the possibility of a project. The student and the prospective faculty advisor will agree on the specific project and the scope of the project. The scope of the project must be beyond the scope of a research project assigned within the context of a course. Acceptance as a research student is at the discretion of the individual faculty member. Any one faculty member will have no more than three (3) research students in any semester.
- 2) After a project has been chosen by a student, and prior to the beginning of the research project, the student and the faculty advisor may develop a learning agreement; this may include a written prospectus outlining the previous research on the problem they are investigating, a comprehensive literature review, and/or a description of the student's proposed project.
- 3) The student will spend a minimum of 6 hours in the laboratory or in the field each week, for the duration of the project. The research project is to be conducted in close consultation with the faculty advisor. The research project can be conducted over 1, 2, 3 or 4 semesters.

- 4) Each semester that the student participates in a research project the faculty advisor will,
  - a) evaluate the students performance on a pass/fail basis, and
  - b) determine whether the student is performing at an acceptable level to permit the student to continue the project in subsequent semesters.

### **Project Assessment**

- 1) At the conclusion of the research project the student will submit a paper. It is recommended that the research paper follow the format of a refereed journal. The assessment of the paper can be accomplished by,
  - a) submitting the paper for review by the faculty advisor and two other appropriate professionals. A majority of the reviewers must find the execution of the project, the results, and the interpretation of the results appropriate for the amount of time the student devoted to the research project, and that the project attempted to report new and original results, however, a one semester research project only requires the review of the student's research advisor, or
  - b) the student may submit the paper to a refereed journal for publication. The opinions of the journal reviewers will be taken as the assessment. Any paper accepted for publication, accepted for publication with revision, or accepted for publication with major revision, can be designated as an undergraduate thesis and will be reported to the students transcript as such.
  
- 2) The student is to present the results of their research as a department seminar, or at a scientific meeting as an oral presentation or poster every two semesters that the student spends on the project.