

Prepared by the Department of Natural Sciences & Life Fitness

Date of Departmental Approval: April 7, 2008

Date approved by Curriculum and Programs: October 27, 2008

Effective: Fall 2009

1. **Course Number:** SCI261  
**Course Title:** Cooperative Work Experience in the Natural Sciences
2. **Description:** This course provides students the opportunity to participate in a laboratory or field project in the natural sciences, under the supervision of a mentor. The course provides the student with the opportunity to apply the principles learned in the classroom to a practical real-world project. The project may be performed on campus, or at an off-campus location. The project outline needs to be approved by the department. Time commitment is based on the number of credits, approximately 70 hours per credit.
3. **Student Learning Outcomes (instructional objectives; intellectual skills):**  
Upon successful completion of this course, students are able to do the following:
  - Apply scientific reasoning to analyze a problem
  - Access published scientific literature, and learn to independently draw conclusions
  - Design experiments to test various hypotheses, and explain or justify the choice of experimental design
  - Use or operate scientific equipment in the correct manner
  - Collect and record data, and organize it for analysis
  - Analyze and present data using measurements, graphs, and mathematical or statistical tools
  - Write formal reports explaining the findings, and come to reasonable conclusions
  - Present and explain the work to a body of peers
4. **Credits:** Variable credits. 1, 2, 3, or 4 credits.
5. **Satisfies General Education Requirement:** No
6. **Prerequisite:** Two 4-credit science with labs courses with a grade of C or higher and approval of the department.
7. **Semester(s) Offered:** Varies
8. **Suggested General Guidelines for Evaluation:**  
Course grading will be done jointly by the mentor and the coordinator (or a faculty member), and will include:
  - Journal**, in which experimental design, data, and conclusions will be recorded
  - Formal written report**, which will (normally) include the following components: Abstract, Introduction, Materials and Methods, Results, Discussion, and References. Figures and Tables with legends must be provided.
  - Oral presentation** to mentors, and student invitees
  - Written evaluation report** by the mentor and coordinator (or a faculty member) addressing the above components, and skills assessment of the student
9. **General Topical Outline (Optional):**
  1. Project outline prepared by mentor and coordinator (or faculty member), subject to departmental approval
  2. Student contract
  3. Evaluation form