

## COURSE OUTLINE

### **PHY 50 Physics Internship**

#### **Catalog Statement**

PHY 50 is a discipline-specific course, which allows students to earn from 1.0 – 3.0 units for a structured, supervised internship either on-campus or off-campus under the supervision of a faculty advisor. It is designed to provide students with appropriate preparation and a hands-on work experience in one of the following fields: experimental design and/or construction, theoretical research and data visualization in modern physics, science teaching, other related subject areas. The purpose of this class is to enhance students' knowledge, skill levels, and professional competency in their targeted career. This course is recommended for the self-motivated student, and requires faculty advisor approval to register.

Total Lecture Units: 0.0

Total Laboratory Units: 1.0-3.0

**Total Course Units: 1.0-3.0**

Total Lecture Hours: 0.0

Total Laboratory Hours: 48.0-144.0

Total Laboratory Hours To Be Arranged: 0.0

**Total Faculty Contact Hours: 0.0**

Recommended preparation or concurrent enrollment: Eligibility for ENGL 120 or ESL 151.

Prerequisite or corequisite: Enrollment in appropriate discipline-specific theory or lab course at GCC.

#### **Course Entry Expectations**

Prior to enrolling in the course, the student should be able to:

- organize and write thesis-based essays;
- use detailed examples, facts, logical explanations, and other appropriate support for thesis statements;
- summarize, analyze, and synthesize information, express and apply standards for judgment, compare and contrast, and evaluate evidence in order to form and state reasoned opinions;
- gather and organize information through library research;
- demonstrate a command of grammar, diction, syntax, and mechanics sufficient for college level work: control of standard English at the sentence level, with few major errors in grammar and punctuation;
- adhere to the proposed internship facility's standards of practice and ethical code of conduct;
- demonstrate sufficient understanding of discipline-specific terminology, theory and practices acceptable for internship at the host facility.

## **Course Exit Standards**

Upon successful completion of the required coursework, the student will be able to:

- demonstrate an understanding of the professional and educational minimum qualifications for employment and advancement within the target career/discipline;
- demonstrate effective professional practices and soft skills of a specific career/discipline;
- demonstrate basic occupational competencies (knowledge, skills and abilities) required for employment in the target career/discipline;
- analyze personal performance of specific skills related to the target career/discipline;
- compose a resumé.

## **Course Content**

**Total Faculty Contact Hours = 48.0-144.0**

Orientation (prior to enrollment in the course)

- Professional standards, behavior and ethical code of conduct
- Job skill requirements
- Self-reflection and problem solving
- Professionalism
  - Appropriate attire
  - Professional behavior
  - Being aware/avoiding sexual harassment

Developing learning objectives

Employer-student contract

Internship (**48-144 hours TBA**)

- On-the job shadowing of current employees
- Data visualization of contemporary physics topics such as climate change or the dark matter hypothesis
- Programming learning tools for use in the classroom
- Designing and/or constructing contemporary physical experiments to within the limits of available resources
- Research involving a selected topic of interest with the goal of professionally presenting results to the GCC community

## **Methods of Instruction**

The following methods of instruction may be used in this course:

- lecture;
- demonstration (e.g. observation of current employees on the job);
- field work;
- meetings with faculty advisor (e.g. discussions regarding the relationship between internship experiences and academic theories);
- multimedia.

## **Out of Class Assignments**

The following out of class assignments may be used in this course:

- journal (e.g. documentation of duties performed);
- written assignments (e.g. research of industry-specific educational requirements);

- final resume;
- final project (e.g. professional portfolio).

### **Methods of Evaluation**

The following methods of evaluation may be used in this course:

- internship facility supervisor's evaluation of student;
- reports (e.g. weekly reports of reflections on internship experiences);
- student self-evaluation (e.g. self-assessment of internship performance).

### **Textbooks**

No required textbooks.

Faculty Advisor may assign readings from discipline-specific texts.

### **Student Learning Outcomes**

Upon successful completion of the required coursework, the student will be able to:

- demonstrate basic occupational competencies required for employment in the target career/discipline.