

PHY49 : Physics Independent Study

General Information

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| Author: | <ul style="list-style-type: none">Corey Jamieson |
| Course Code (CB01) : | PHY49 |
| Course Title (CB02) : | Physics Independent Study |
| Department: | PHY |
| Proposal Start: | Fall 2024 |
| TOP Code (CB03) : | (1902.00) Physics, General |
| CIP Code: | (40.0801) Physics, General. |
| SAM Code (CB09) : | Non-Occupational |
| Distance Education Approved: | No |
| Will this course be taught asynchronously?: | No |
| Course Control Number (CB00) : | CCC000517445 |
| Curriculum Committee Approval Date: | 03/13/2024 |
| Board of Trustees Approval Date: | 04/16/2024 |
| Last Cyclical Review Date: | 03/13/2024 |
| Course Description and Course Note: | PHY 49 provides independent exploration to familiarize students with research techniques, career options, and special academic interests in physics. Emphasis shall be on individual research projects, library research, and/or preparation of research papers. There is no prescribed course content. Students develop and complete a research project approved by the sponsoring instructor and division chairperson. Note: Registration is open to any student at GCC who is currently registered for six or more units and who is admitted to Independent Study by the instructor. A student is limited to one Independent Study per semester and no more than 12 units credit toward the AA Degree or Certificate, and no more than six units per division. The units received may be acceptable for college transfer subject to the approval of the individual college. This course may be taken 3 times; a maximum of 9 units may be earned. |
| Justification: | Mandatory Revision |
| Academic Career: | <ul style="list-style-type: none">Credit |

Academic Senate Discipline

| | |
|-----------------------|---|
| Primary Discipline: | <ul style="list-style-type: none">Physics/Astronomy |
| Alternate Discipline: | No value |
| Alternate Discipline: | No value |

Course Development

Basic Skill Status (CB08)

Course is not a basic skills course.

Allow Students to Gain Credit by Exam/Challenge

Course Special Class Status (CB13)

Course is not a special class.

Pre-Collegiate Level (CB21)

Not applicable.

Grading Basis

- Grade with Pass / No-Pass Option

Course Support Course Status (CB26)

Course is not a support course

Transferability & Gen. Ed. Options

General Education Status (CB25)

Not Applicable

Transferability

Transferable to CSU only

Transferability Status

Approved

Units and Hours

Summary

Minimum Credit Units (CB07) 1

Maximum Credit Units (CB06) 3

Total Course In-Class (Contact) Hours 54 - 162

Total Course Out-of-Class Hours 0 - 0

Total Student Learning Hours 54 - 162

Credit / Non-Credit Options

Course Type (CB04)

Credit - Degree Applicable

Noncredit Course Category (CB22)

Credit Course.

Noncredit Special Characteristics

No Value

Course Classification Code (CB11)

Credit Course.

Variable Credit Course

Funding Agency Category (CB23)

Not Applicable.

Cooperative Work Experience

Education Status (CB10)

Weekly Student Hours

| | In Class | Out of Class |
|------------------|----------|--------------|
| Lecture Hours | 0 | 0 |
| Laboratory Hours | 3 - 9 | 0 |
| Studio Hours | 0 | 0 |

Course Student Hours

| | |
|--|----------|
| Course Duration (Weeks) | 18 |
| Hours per unit divisor | 54 |
| Course In-Class (Contact) Hours | |
| Lecture | 0 |
| Laboratory | 54 - 162 |
| Studio | 0 |

Total 54 - 162

Course Out-of-Class Hours

| | |
|--------------|----------|
| Lecture | 0 |
| Laboratory | 0 |
| Studio | 0 |
| Total | 0 |

Time Commitment Notes for Students

No value

Units and Hours - Weekly Specialty Hours

| Activity Name | Type | In Class | Out of Class |
|---------------|----------|----------|--------------|
| No Value | No Value | No Value | No Value |

Pre-requisites, Co-requisites, Anti-requisites and Advisories

Co-Requisite

Concurrent registration in 6 or more units.

Entry Standards

Entry Standards

Varies with subject and research area choice.

Course Limitations

Cross Listed or Equivalent Course

Specifications

Methods of Instruction

Methods of Instruction Other

Out of Class Assignments

- Research project

Methods of Evaluation

Other

Rationale

Faculty evaluation of research project.

Textbook Rationale

No required textbooks. Faculty advisor and staff at the host institution may assign readings from discipline-specific sources.

Textbooks

Author

Title

Publisher

Date

ISBN

No Value

No Value

No Value

No Value

No Value

Other Instructional Materials (i.e. OER, handouts)

Description

Readings may be assigned by Faculty Advisor.

Author

No value

Citation

No value

Online Resource(s)

Materials Fee

No value

Learning Outcomes and Objectives

Course Objectives

Conduct independent discipline-specific research activities.

Demonstrate a specific in-depth knowledge in the discipline involved.

SLOs

Apply concepts and knowledge of discipline-specific materials to research projects, essays, and other assignments.

Expected Outcome Performance: 70.0

ILOs
Core
ILOs

Analyze and solve problems using critical, logical, and creative thinking; ask questions, pursue a line of inquiry, and derive conclusions; cultivate creativity that leads to innovative ideas.

Demonstrate depth of knowledge in a course, discipline, or vocation by applying practical knowledge, skills, abilities, theories, or methodologies to solve unique problems.

PHY
Physics

explain the difference between evidence and theory in science and cite an example in their explanation

interface computers and sensors using digital conversion technology and the Data Studio Software package to perform experiments in mechanics, electricity and magnetism, thermodynamics, and chemistry.

use instruments and computers to accurately measure, graph, and analyze physical properties

Additional SLO Information

Does this proposal include revisions that might improve student attainment of course learning outcomes?

No

Is this proposal submitted in response to learning outcomes assessment data?

No

If yes was selected in either of the above questions for learning outcomes, explain and attach evidence of discussions about learning outcomes.

No Value

SLO Evidence

No Value

Course Content

Lecture Content

No value

Laboratory/Studio Content

Research project (54-162 hours)

Total hours: 54-162

Additional Information

Is this course proposed for GCC Major or General Education Graduation requirement? If yes, indicate which requirement in the two areas provided below.

No

GCC Major Requirements

No Value

GCC General Education Graduation Requirements

No Value

Repeatability

Not Repeatable

Justification (if repeatable was chosen above)

No Value

Resources

Did you contact your departmental library liaison?

No

If yes, who is your departmental library liaison?

No Value

Did you contact the DEIA liaison?

No

Were there any DEIA changes made to this outline?

No

If yes, in what areas were these changes made:

No Value

Will any additional resources be needed for this course? (Click all that apply)

- No

If additional resources are needed, add a brief description and cost in the box provided.

No Value