

**PHYS 49 Course Outline as of Fall 2016****CATALOG INFORMATION**

Dept and Nbr: PHYS 49            Title: INDEPENDENT STUDY  
 Full Title: Independent Study in Physics  
 Last Reviewed: 5/9/2016

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	0	17.5	Lecture Scheduled	0
Minimum	1.00	Lab Scheduled	0	3	Lab Scheduled	0
		Contact DHR	1.00		Contact DHR	17.50
		Contact Total	1.00		Contact Total	17.50
		Non-contact DHR	8.00		Non-contact DHR	140.00

Total Out of Class Hours: 0.00

Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable

Grading: Grade Only

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

**Catalog Description:**

Independent research project in physics to provide for an enriched academic experience. UC determines credit after transfer; not counted for admission. (See a counselor for details.)

**Prerequisites/Corequisites:****Recommended Preparation:****Limits on Enrollment:**

Approval of the project proposal by sponsoring faculty, Department Chair and Supervising Administrator.

**Schedule of Classes Information:**

Description: Independent research project in physics to provide for an enriched academic experience. UC determines credit after transfer; not counted for admission. (See a counselor for details.) (Grade Only)

Prerequisites/Corequisites:

Recommended:

Limits on Enrollment: Approval of the project proposal by sponsoring faculty, Department Chair

and Supervising Administrator.

Transfer Credit: CSU;UC.

Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>	Effective:	Inactive:
<b>IGETC:</b>	<b>Transfer Area</b>	Effective:	Inactive:
<b>CSU Transfer:</b>	Transferable	Effective: Spring 1983	Inactive:
<b>UC Transfer:</b>	Transferable	Effective: Spring 1983	Inactive:

### **CID:**

**Certificate/Major Applicable:**

Not Certificate/Major Applicable

## **COURSE CONTENT**

### **Student Learning Outcomes:**

Upon completion of the course, students will be able to:

1. Expand upon their foundational knowledge and skills through independent research projects.

### **Objectives:**

1. Find relevant resources for investigating a physics research project.
2. Present the results of a research project in written or oral form.
3. Achieve the objectives outlined in the special studies application.

### **Topics and Scope:**

A physics topic or topics that build upon our department's regular offerings. Content will vary depending on student interest and instructor availability. Typically, the course involves a project with a literature research phase, an experimentation phase, and a presentation phase.

### **Assignment:**

Assignments will be outlined in the special studies application. Possible projects include presentation of a poster project, submission of a research paper, and/or construction of a physics demo or experiment.

### **Methods of Evaluation/Basis of Grade:**

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Written Report
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Writing 10 - 100%
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**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Project may involve experimentation & presentation

Problem solving  
0 - 90%

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

None

Skill Demonstrations  
0 - 0%

**Exams:** All forms of formal testing, other than skill performance exams.

None

Exams  
0 - 0%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

None

Other Category  
0 - 0%

**Representative Textbooks and Materials:**

Written resources will vary with project content.