

I. CATALOG INFORMATIONA. Discipline: PHYSICSB. Subject Code and Number: PHYS M122C. Course Title: Independent Study-Physics

D. Credit Course units:

Units: 0.5 – 3Lecture Hours per week: 0Lab Hours per week : 1.5 – 9Variable Units : No

E. Student Learning Hours:

Lecture Hours:

Classroom hours: _____

Laboratory/Activity Hours:

Laboratory/Activity Hours 26.25 - 157.5**Total Combined Hours** in a 17.5 week term: 26.25 - 157.5

F. Non-Credit Course hours per week _____

G. May be taken a total of: 1 2 3 4 time(s) for creditH. Is the course co-designated (same as) another course: No Yes

If YES, designate course Subject Code & Number: _____

I. Course Description:

Allows independent study for students who wish to extend their knowledge of a particular area of Physics through research and study. Utilizes an approved independent project. Includes one-on-one work with instructor.

J. Entrance Skills

*Prerequisite: No Yes Course(s)Completion of one course in Physics and instructor approval.*Corequisite: No Yes Course(s)

Limitation on Enrollment: No Yes

Recommended Preparation: No Yes Course(s)

Other: No Yes

K. Other Catalog Information:

Interested students should contact an Physics instructor for assistance in developing a contract for learning about a specific topic. May be taken for a maximum of 6 units. Formerly PHYS M22A/B. Transfer credit: CSU; UC (determined after admission).

II. COURSE OBJECTIVES

Upon successful completion of the course, a student will be able to:

		Methods of evaluation will be consistent with, but not limited by, the following types or examples.
1	apply the knowledge acquired to other aspects of Physics.	Successful completion of a course project, i.e., portfolio, paper, performance, presentation, or research. Evaluation methods will be determined by the instructor in consultation with the student.
2	formulate statements designed to assess the applicability of their knowledge to other related topics.	Successful completion of a course project, i.e., portfolio, paper, performance, presentation, or research. Evaluation methods will be determined by the instructor in consultation with the student.
3	analyze new information, practices, or research in the Physics discipline and utilize those findings in further research or creative projects.	Successful completion of a course project, i.e., portfolio, paper, performance, presentation, or research. Evaluation methods will be determined by the instructor in consultation with the student.

III. COURSE CONTENT

Estimated %	Topic	Learning Outcomes
Lecture (must total 100%)		
Lab (must total 100%)		
100.00%	Project content and specific topics will be determined by the student in consultation with the supervising faculty member.	1, 2, 3

IV. TYPICAL ASSIGNMENTS**A. Writing assignments**

Writing assignments are required. Possible assignments may include, but are not limited to:	
1	projects to be determined in conversations between the instructor and the student.
2	development of project-related documents: essays, term projects, library research, and literature reviews.

B. Appropriate outside assignments

Appropriate outside assignments are required. Possible assignments may include, but are not limited to:	
1	projects to be determined in conversations between the instructor and the student.

C. Critical thinking assignments

Critical thinking assignments are required. Possible assignments may include, but are not limited to:	
1	projects to be determined in conversations between the instructor and the student.

V. METHODS OF INSTRUCTION

Methods of instruction may include, but are not limited to:

- Distance Education – When any portion of class contact hours is replaced by distance education delivery mode (Complete DE Addendum, Section XV)
- Lecture/Discussion
- Laboratory/Activity
- Other (Specify)
The specific methods to be used will be determined by the supervising faculty member in consultation with the student.
- Optional Field Trips
- Required Field Trips

VI. METHODS OF EVALUATION

Methods of evaluation may include, but are not limited to:

- | | | |
|---|---|---|
| <input checked="" type="checkbox"/> Essay Exam | <input type="checkbox"/> Classroom Discussion | <input checked="" type="checkbox"/> Skill Demonstration |
| <input type="checkbox"/> Problem Solving Exam | <input checked="" type="checkbox"/> Reports/Papers/Journals | <input checked="" type="checkbox"/> Participation |
| <input checked="" type="checkbox"/> Objective Exams | <input checked="" type="checkbox"/> Projects | <input checked="" type="checkbox"/> Other (specify) |

Specific evaluation methods will be determined by the instructor in consultation with the student.

VII. REPRESENTATIVE TEXTS AND OTHER COURSE MATERIALS

Specific books, articles, films, etc. used will be determined by the supervising faculty member in consultation with the student.

VIII. STUDENT MATERIALS FEES

No Yes

IX. PARALLEL COURSES

College	Course Number	Course Title	Units
College of Alameda	PHYS 49	Independent Study in Physics	0.5-5
El Camino College	PHYS 99	Independent Study	1-3
Chabot College	PHYS 29	Independent Study	0.5-2
Columbia College	PHYCS 99	Independent Study in Physics	1-3
Los Medanos College	PHYS 98	Independent Study in Physics	0.5-5
Canada College	PHYS 695	Independent Study	0.5-3

X. MINIMUM QUALIFICATIONS

Courses Requiring a Masters Degree:

Master's degree in physics, astronomy, or astrophysics OR bachelor's degree in physics or astronomy AND master's degree in engineering, mathematics, meteorology, or geophysics OR the equivalent.

XI. ARTICULATION INFORMATION

A. Title V Course Classification:

1. This course is designed to be taken either:

- Pass/No Pass only (no letter grade possible); or
 Letter grade (P/NP possible at student option)

2. Degree status:

Either Associate Degree Applicable; or Non-associate Degree Applicable

B. Moorpark College General Education:

1. Do you recommend this course for inclusion on the Associate Degree General Education list?

Yes: No: If YES, what section(s)?

- A1 - Natural Sciences - Biological Science
 A2 - Natural Sciences - Physical Science
 B1 - Social and Behavioral Sciences - American History/Institutions
 B2 - Social and Behavioral Sciences - Other Social Behavioral Science
 C1 - Humanities - Fine or Performing Arts
 C2 - Humanities - Other Humanities
 D1 - Language and Rationality - English Composition
 D2 - Language and Rationality - Communication and Analytical Thinking
 E1 - Health/Physical Education
 E2 - PE or Dance
 F - Ethnic/Gender Studies

C. California State University(CSU) Articulation:

1. Do you recommend this course for transfer credit to CSU? Yes: No:
2. If YES do you recommend this course for inclusion on the CSU General Education list?
 Yes: No: If YES, which area(s)?
 A1 A2 A3 B1 B2 B3 B4
 C1 C2 D1 D2 D3 D4 D5
 D6 D7 D8 D9 D10 E

D. University of California (UC) Articulation:

1. Do you recommend this course for transfer to the UC? Yes: No:
2. If YES do you recommend this course for the Intersegmental General Education Transfer Curriculum (IGETC)? Yes: No:

IGETC Area 1: English Communication

- English Composition
- Critical Thinking-English Composition
- Oral Communication

IGETC Area 2: Mathematical Concepts and Quantitative Reasoning

- Mathematical Concepts

IGETC Area 3: Arts and Humanities

- Arts
- Humanities

IGETC Area 4: Social and Behavioral Sciences

- Anthropology and Archaeology
- Economics
- Ethnic Studies
- Gender Studies
- Geography
- History
- Interdisciplinary, Social & Behavioral Sciences
- Political Science, Government & Legal Institutions
- Psychology
- Sociology & Criminology

IGETC Area 5: Physical and Biological Sciences (mark all that apply)

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- Physical Science Lab or Physical Science Lab only (non-sequence)
- Physical Science Lecture only (non-sequence)
- Biological Science
- Physical Science Courses
- Physical Science Lab or Biological Science Lab Only (non-sequence)
- Biological Science Courses
- Biological Science Lab course
- First Science course in a Special sequence
- Second Science course in a Special Sequence
- Laboratory Activity
- Physical Sciences

IGETC Area 6: Language other than English

- Languages other than English (UC Requirement Only)
- U.S. History, Constitution, and American Ideals (CSU Requirement ONLY)
- U.S. History, Constitution, and American Ideals (CSU Requirement ONLY)

XII. REVIEW OF LIBRARY RESOURCES

- A. What planned assignment(s) will require library resources and use?

The following assignments require library resources:

Research projects using the Library's print and online resources.

- B. Are the currently held library resources sufficient to support the course assignment?

YES: NO:

If NO, please list additional library resources needed to support this course.

XIII. PREREQUISITE AND/OR COREQUISITE JUSTIFICATION

Requisite Justification for Completion of one course in Physics and instructor approval.

- A. Sequential course within a discipline.
- B. Standard Prerequisite or Corequisite required by universities.
- C. Corequisite is linked to companion lecture course.
- D. Prerequisite or Corequisite is authorized by legal statute or regulation.
Code Section: _____
- E. Prerequisite or Corequisite is necessary to protect the students' health and safety.

F. Computation or communication skill is needed.

G. Performance courses: Audition, portfolio, tryouts, etc. needed.

XIV. WORKPLACE PREPARATION

PHYS M122: Not Applicable

XV. DISTANCE LEARNING COURSE OUTLINE ADDENDUM

PHYS M122: Not Applicable

XVI. GENERAL EDUCATION COURSE OUTLINE ADDENDUM

PHYS M122: Not Applicable

XVII. STUDENT MATERIALS FEE ADDENDUM

PHYS M122: Not Applicable

XVIII. REPEATABILITY JUSTIFICATION TITLE 5, SECTION 55041

PHYS M122: Not Applicable

XIX. CURRICULUM APPROVAL

Course Information:

Discipline: PHYSICS

Discipline Code and Number: PHYS M122

Course Revision Category: Outline Update

Course Proposed By:

Originating Faculty: Michael Trainor 12/18/2015

Faculty Peer: Erik Reese 12/19/2015

Curriculum Rep: Scarlet Relle 12/22/2015

Department Chair: Ronald Wallingford 12/19/2015

Division Dean: _____

Approved By:

Curriculum Chair: Jerry Mansfield 02/06/2016

Executive Vice President: Lori Bennett 02/01/2016

Articulation Officer: _____

Librarian: _____

Implementation Term and Year: Spring 2016

Approval Dates:

Approved by Moorpark College Curriculum Committee: 02/02/2016

Approved by Board of Trustees (if applicable): _____

Approved by State (if applicable): 02/26/2016