

I. Catalog Description

PHYS 461, 462 Senior Project (2) (2)

Selection and completion of a project under faculty supervision. Projects typical of problems which graduates must solve in their fields of employment. Project results are presented in a formal report. Minimum 120 hours total time.

II. Required Prerequisite Preparation

Senior standing at the University.

III. Expected Outcomes

The choice of a project area or subject should contribute to the student's goals and interests. It is expected that the competencies acquired in other courses will be used in the project but sometimes it may be desirable for a particular student to work in an area that is not well covered in the curriculum.

One of the important outcomes expected is that of becoming competent in utilizing all available background information including reference material and information obtained through correspondence and personal contacts. The ability to plan the research effort should also involve being able to assess and limit, as necessary, the scope of the project.

It is important that the student recognize that completion of the project on schedule is an essential element of successful work.

The project will be judged in large measure on the student's ability to organize, illustrate, and write a clear, concise and correct report on the investigation.

IV. Text and Reference

As needed in the particular chosen project.

V. Minimum Student Materials Required

None.

VI. Minimum Facilities Required

Library, experimental, demonstration, shop and computer facilities. Project rooms where students may leave equipment set up for extended periods.

VII. Expanded Description of Content and Method of Instruction

A. Introductory meeting and choice of projects:

Several class meetings will be scheduled during the first three weeks by the senior project coordinator.

At an initial meeting as scheduled the senior project coordinator will discuss the course procedure in detail, including expected outcomes, types of projects previously undertaken, and scheduling. Students are encouraged to select a project which contributes to their own goals and interests. It is expected that students who have found such a project will consult with and obtain the consent of a particular faculty member who will serve as project advisor. It is the student's responsibility to complete the choice of project and obtain the approval of a faculty advisor on the project prior to a second class meeting scheduled during the third week of the quarter.

At this meeting students will give a brief report on their project selection and the senior project coordinator will compile a list of the projects selected and the advisors.

B. Room assignments as necessary will be made by the senior project coordinator.

C. The student will prepare a detailed outline of the project, including objectives, procedures, estimates of time and costs. (See Attachment A.) and submit it to the advisor by the end of fourth week of the quarter.

D. The student will continue his work on the project, arranging a time for weekly consultation with his advisor and will inform him of the hours each week at which he plans regular work on the project. Progress reports are to be submitted at regular intervals to the advisor as follows:

1. One week before finals begin in the first quarter.
2. At the end of the first month of the second quarter.
3. One week before finals begin in the second quarter.

E. At the start of the second quarter, a class meeting will be scheduled with students and advisors at which each student will give a brief report on the status of his project. The students will arrange new hours of consultation and work times as necessary.

F. In order to aid the student in starting his write-up, he shall submit to his advisor a rough draft of the first chapter of his report with the second progress report.

G. At least one additional chapter of his report in rough draft shall be submitted to his advisor with his third progress report.

H. The completed rough draft shall be submitted to the advisor in sufficient time to permit him to review it and to suggest revisions prior to the due date for the final report.

The due date for the final report is normally the end of the seventh week of classes in the third quarter. Two copies; one bound and one unbound, are to be submitted.

I. Caution: Project reports turned in after the deadline cannot be evaluated adequately by the faculty advisor. In such cases a lower grade may be expected, and graduation may be delayed. Those wishing to continue related work subsequent to Physics 462 may do so by enrolling in Physics 400.

J. The advisor will read the report in its final form and assign grades for:

1. The project work (Physics 461) and
2. The project write-up (Physics 462).

K. The advisor will forward the unbound copy to the Departmental office. See attachment C.

Second copy will be filed in the departmental senior project file. When the library copy is returned after microfiling, it can be returned to the students.

VIII. Methods of Evaluating Outcomes

Evaluation is based on the degree to which the final report and general activity during the course of the project demonstrate well-rounded ability on the part of the students. The Physics 461 grade depends on the quality of the project work whereas the Physics 462 grade is dependent on the write-up of the project.

PROJECT OUTLINE

Physics 461, 462

NAME _____

DATE _____

SUBJECT:

PURPOSE:

MATERIALS AND THEIR AVAILABILITY:

OUTLINE OF PROCEDURE:

(A break-down of the different work that comprise the overall project and the estimated number of hours for each. For example, details like reviewing the literature in periodicals and books, putting together the necessary equipment, collecting and analyzing data, the write-up of the project report, etc. If the project will require acquisition or purchase of materials or outside equipment, indicate how this is to be carried out.)

PROGRESS REPORT NO _____

DATE: _____ NAME: _____

SUBJECT:

OUTLINE OF WORK ACCOMPLISHED:

(Details of your work since the inception of the project or since the last progress report as the case may be. Also, the approximate number of hours spend on each piece of work.)

GENERAL MANUSCRIPT DETAILS

A. Number of Copies

1. Two copies are required, one original unbound and one copy (both Xerox and carbon copies are acceptable).
2. The unbound original will be forwarded to the University Library for microfiching, following the procedure described in Attachment H, Procedures for Submitting Senior Projects to the Library.
3. The copy will be placed in the senior project file of the department. Double majors must present copies to each of the two departments.
4. The copy in the department file will be replaced by the original when it is returned by the Library. The copy will then be returned to the student, provided that the student has provided a self-addressed envelope for this purpose.

B. Binding Requirements

1. The original copy should not be bound in any form until its return from the library; it should be submitted in a 9 x 12 inch envelope.
2. The copy is to be bound in an inexpensive cover available in the University bookstore.
3. An identical cover should be furnished to permit the binding of the original copy by the department after its return from the Library.
4. The title and the name of the student are typed on a sticker which is applied to the cover of the folder.

Sample:

(Title of Project)

(Name of Student)

(Date Submitted)

ATTACHMENT C
(Continued)

- D. Certain conventions are followed.
1. The basic conventions are those that are specified in the American Institute of Physics Style Manual.
2. Top, right and bottom margins are one inch and a quarter; left margin is one inch and a half.
3. All text material is double spaced.
4. Short quotations are included in the text, in quotation marks.
5. Long quotations (over three or four lines) are double indented and single spaced, without quotation marks.
6. The pages are numbered one-half inch below the top of the page, and one and one-fourth inches from the right-hand edge of the page.
- (a) Small Roman numerals -- i, ii, iii, etc. -- are used in numbering all pages preceding the first chapter.
- (b) Arabic numerals -- 1, 2, 3, 4, etc. -- are used in numbering all succeeding pages.
7. Illustrative materials require special attention.
- (a) Photographs, drawings, diagrams, and similar illustrative materials are designated as Figures, which are numbered consecutively throughout the project in Arabic numerals, i.e., Figure 1, Figure 2. The Figure designation is centered immediately below the illustration.
- (b) Tables are designated in Roman numerals, as Table I, Table II, etc., through the text. The Table designation is centered immediately above the table
- (c) Illustrative material is used whenever it is appropriate to the text and is placed as near as possible after the material to which it applies.
- (d) Essential explanatory notes for illustrative material are placed below the figure or table. If a footnote is necessary it is used according to standard footnote form, but it should not be separated from the figure or table by dividing line.
- e. Footnotes should be used to identify the quotations or indebtedness to a source for specific information. The form in which the references are made should conform to the style used in professional literature in the student's field of specialization.
- f. A bibliography of references used in preparation of the report is placed at the end of the report. All references are listed in a single alphabet by author's last name and numbered consecutively. If author is unknown, list the reference by the first significant word of the title.

(Sample Title Page)

SPACE QUANTIZATION OF
ANGULAR MOMENTUM

BY

Mary Q. Mustang

Physics Department
California Polytechnic State University
San Luis Obispo, California

1980

S A M P L E

APPROVAL PAGE

TITLE: Space Quantization of Angular Momentum

AUTHOR: Mary Q. Mustang

DATE SUBMITTED: June 1980

John Smith

Senior Project Advisor

Signature

(Sample)

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(Sample)

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PROCEDURES FOR SUBMITTING SENIOR PROJECTS
TO THE LIBRARY

A The Senior Project faculty advisor or department office will forward the original copy of the Senior Project to the Library - Senior Projects.

The following items are to be attached to the Senior Project:

1. A cashier's receipts (white copy) that will confirm the student has paid the cost of microfiching.
2. Two completed copies of the "Senior Project Requirement Form" (white and pink). Other copies of this form are to be distributed by the faculty advisor or the department office.

B. Since the Senior Project will be microfiched, it should not be bound in any form. The Department will forward it to the Library in a 9 x 12 envelope addressed to Library - Senior Projects.

C. The Senior Project submitted to the Library should not show a grade (Public Law 98-380, Sec. 513).

D. The Senior Project will be returned to the department office after it has been microfiched.

E. These procedures do not apply to Senior Projects that are done in a non-print format (e.g. slides, 16 mm film, etc.). In such cases, the Project cannot be microfiched and will be retained by the Library in its non-print form. Therefore, it will not be returned to the department. Although payment of a microfiche reproduction fee is not required for non-print format Senior Projects, copies of the Senior Project Requirement form should be sent to the Library with the Project.

F. If there are any questions regarding these procedures, please call the University Archives, Library, extension 6-2306.