Agreement on Terms for Physics 4900 -- Research in Physics

Name: A Number:

Semester and year:

Credits:

I. Guidelines

Success in Physics 4900 requires both effort and achievement. As a guide, the student effort associated with this course should be no less than 45 hours of work times the number of credits for the course, spread over the semester. Thus, one credit of 4900 should correspond to a minimum of 45 hours--an average of 3 hours per week. Two credits should correspond to a minimum of 90 hours (6 hours per week) and three credits should correspond to 135 hours (9 hours per week).

At the beginning of the semester, the student identifies a mentor. The mentor outlines a possible project for study. Together, and in light of the guidelines given above, they agree on what level of achievement will correspond to a grade of A. The 4900 course director approves that agreement.

The student is required to maintain an up-to-date logbook to document effort. The student records in this book entries that summarize work as it happens. Each entry should be dated and the time spent on the task estimated. The logbook is *not meant to be a final product*; the prose need not--perhaps, should not--be polished. The purpose of the logbook is to document all readings, thoughts, activities, designs, constructions, measurements, calculations, simulations, or whatever else may be of relevance to the project that the student does. The importance of the logbook is that it allows the student and mentor to accurately reconstruct both failed and successful avenues of activity. It allows the mentor to better advise the student of what may be more profitable directions of approach. It provides the student with an invaluable resource for writing his/her final report.

During the course of the semester, the student will meet with his/her mentor on a regular basis (once per week should be a target). The student will also meet with the 4900 course director several times during the semester to discuss any problems that he/she may be having.

Achievement will be documented in a written report due at the end of the semester that will then be placed in Digital Commons. The report should be prepared using the American Institute of Physics Style Manual (available in SER250) format. The report should summarize the problem that was studied, the strategy that was employed to try to solve the problem, and whatever results emerged from the process. The report should be written for the general, physically aware reader, not for the student's expert mentor. It should have a 200 word abstract that succinctly states what the problem was

and what results were achieved; it should have an introduction that sets the context for the study including a discussion of relevant literature; it should have a methods or "plan of attack" section outlining what approaches were taken to find solutions to the problem under study; it should have a results section describing what was actually accomplished; and it should conclude with remarks about future directions. The report should include appropriate bibliographical citations, and whatever figures and tables are referred to in the text. Each figure and table should have a short descriptive caption. Computer code and other supplementary material may be appended.

The work done should also be presented in a suitable public forum. This may include a 15 to 20 minute seminar to the 4900 class, a colloquium to the Department, a poster presentation at Student Showcase, or a presentation at the National Conference on Undergraduate Research, the Four Corners Section of the American Physical Society, or similar professional society meetings. Typically, such presentations will be done after the work has reached a reasonable level of maturity--usually near the end of the research experience (e.g., in the second semester for those taking two semesters of 4900).

The final grade in Physics 4900 will be given by the mentor based on the original agreement drawn up and on his/her reading and evaluation of the student's logbook and final report.

II. Agreement

The problem to be studied in this project is

An A grade in this course will require

Signed_____Date_____
(student)
Signed_____ Date_____
(mentor)
Signed_____Date_____
(director)