PHYS 293  
Directed Study  
Spring 2013

Instructor: Dr. Thomas Herring  
Phone: 445-4277

Office: CED 310  
Email: thomas.herring@wnc.edu

Office Hours:  
T 1:00 pm - 3:30 pm  
W 5:30 pm - 6:30 pm  
Th 1:00 pm - 3:30 pm

Text: None – Texts specific to a subject of study will be available through the library or the instructor.

Prerequisites: PHYS 151 or PHYS 180

Meeting Times: TBA (Each student will arrange meetings with the instructor)

Grading:  
Proposal 25%

Progress Reports 25%

Final Report 50%

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Schedule: All students should meet with the instructor during the first week of classes to plan their directed study for the semester.

Proposal: The proposal is a written report detailing the plans for the course of study or project that the student is pursuing. This proposal should define goals and deadlines and should include a schedule for progress reports and a due date for the final report agreed upon with the instructor. Also, any necessary background information concerning the subject of study or the project should be thoroughly discussed. The final version of the proposal is due no later than the end of the 4th week of the semester. Students may collaborate as a group and in this case should submit all documents as co-authored. In this case details of the division of labor must also be addressed in the proposal.
Progress Reports: Progress reports must be submitted to the instructor at regular intervals agreed upon in the proposal document. There must be at least 4 progress reports (more is usually better) submitted between the proposal due date and the end of the 15th week of the semester. Progress reports should clearly indicate goals that have been met as indicated in the proposal as well as addressing any unforeseen problems or goals that have not been met on schedule. Students working with a mentor other than the instructor should have that mentor approve and sign their progress reports before submission. In the case of a collaborative project students should submit at least one progress report including details about the work of their collaborators.

Final Report: The final report due date will be agreed upon in the proposal document but can be no later than the last day of the semester. The final report should consist of a written document and/or a formal presentation as defined in the proposal. The final report should address all stated goals in the proposal and include well documented references as well as show original work from the student.

Makeup Policy: No late work will be accepted.

Extra Credit: There is no extra credit available.

Dishonesty in Class: I don’t anticipate any problems but here’s the policy anyway. Any dishonesty/cheating will result in an F in the course.

Class Conduct: Please be respectful of the learning environment, your fellow students, the instructor, and any visitors. This includes entering and leaving the room quietly (especially if arriving late or leaving early), silencing cell phones during class (just leave the room if you need to take the call), and engaging in side conversations not relevant to the course material.

Disability Statement: WNC supports providing equal access for students with disabilities. Susan Trist (DSS Coordinator) is available to discuss appropriate academic accommodations that students may require. Please meet with me and contact Susan (445-3278) if you might require any accommodation.

I: Catalog Course Description

Provides individual study conducted under the direction of a faculty member. May be repeated for up to six units.

II: Course Objectives

Engineering Physics II provides coverage in electricity and magnetism and thermodynamics. More specifically, this course covers properties of electric fields, potentials, steady-state and transient currents, as well as properties of dielectrics, magnetic fields, electromagnetic fields, and classical thermodynamics. In addition, the first and second Law of Thermodynamics, kinetic theory of gases and entropy will be covered as time permits.

1. Develop conceptual and analytic skills solving a broad range of problems in electricity and magnetism and thermodynamics.

2. Verify dimensional analysis, approximation methods as applied to problems in engineering physics.

3. Solidify the conceptual basis of classical concepts by working a number of multifaceted problems with direct applications in the laboratory.
III: Course Linkage

Linkage of course to educational program mission and at least one educational program outcome.

Program Mission for AA/AS degree: PHYS 293 satisfies the A.A. /A.S. degree mission by providing academic knowledge and skills for successful transfer to meet higher educational goals.

Program Student Learning Outcomes for AA/AS degree: Students who successfully complete PHYS 293 will know the subject matter appropriate to the emphasis of the degree.