16-32

REQUEST FOR APPROVAL TO USE W DESIGNATION

TYPE 1: PROFESSOR COMMITMENT

☑ Professor who is [illegible] Phone 257-7251

☑ Writing Workshop? (If not at UP, where? when?)

☑ Department Contact Person [illegible] Phone 535-4751

☑ Course Number/Title PHYS 350 - Intermediate Experimental Physics I

☑ Statement concerning departmental responsibility

[illegible]

[illegible] SIVE COURSE:

I. "Writing Summary"--one or two pages explaining how writing is used in the course. First, explain any distinctive characteristics of the content or students which would help the Liberal Studies Committee

WRITING SUMMARY – PHYS 350 "Intermediate Experimental Physics I"

PHYS 350, Intermediate Experimental Physics I, is currently listed as a "W" course. The syllabus and nature of the writing assignments have started to become out of date. These [redacted]

The genre format will be that of a scientific journal article. The students are asked to use the article format from *The American Journal of Physics*. There are two intermediate due dates for

[redacted]

reference (along with spreadsheet, graphing and analysis computer packages) for writing the formal laboratory report.

- Amount of writing: At least 3-4 pages per experiment
- Number of assignments: 5 experiments during the semester
- Opportunity for revision: No
- Evaluation standards: (1) Basic legibility (2) Can the student articulate to an instructor what was done in an experiment from the information in the lab notebook? (3) Can a peer reconstruct what was done in an experiment from the information in the lab notebook?
- % contribution to students' grade: 5%

[redacted]

Syllabus

Instructors: Dr. Muhammad Z Numan (mznuman@iup.edu),

[redacted]

c) Can a peer reconstruct what was done in an experiment from the information in the lab notebook?

V. Required Textbook

Intermediate Experimental Physics I – provided as handouts for each experiment

Suggested References:

1. Experimentation, an Introduction to Measurement Theory and Experiment Design. D.C. Baird, Prentice Hall, 1988.

2. Experimental Physics, Modern Methods. R.A. Dunlap, Oxford University Press, 1988.

3. Building Scientific Apparatus. a Practical Guide to Design and Construction. J.H. Moore, C. Davis, M.A. Coplan, Addison-Wesley Publishing Co., 1983.

VI. Lab Reports: 50% of the final grade in this course is based on the lab reports. An example lab report and pointers for graphical analysis and error analysis are on D2L.

The suggested format for the laboratory report is as follows:

a. COVER SHEET: The cover sheet should include the experiment title, names of the author and each lab partner and the submission date. See the sample report.

b. INTRODUCTION/PURPOSE: A brief statement describing the objectives of the laboratory exercise.

c. THEORETICAL BACKGROUND: A description of the theory associated with the problem at hand. Any derivation of equations used should be concise.

h. CONCLUSIONS: This is where you strive to correlate and reconcile the theoretical and experimental results and to explain why any discrepancy may

ASSIGNMENT SHEET – LAB REPORTS

After performing each of the experiments in this laboratory, lab partners are expected to independently write up their own lab reports. The lab partners are expected to be independent from each other after the data is taken. They can talk to each other about what they are writing,

ASSIGNMENT SHEET – TERM PAPER

A term is due at the end of the semester. The due date is the date of the scheduled final exam for the class. The length of the paper is 10-15 type written pages. The subject of the paper is a scientific or technical topic of your choice. Example term paper topics are: (1) A physics topic of the student's choice, for example "Black Hole Physics", (2) An experimental technique, for example "Electron Paramagnetic Resonance", (3) A physical theory, for example "What is Quantum ElectroDynamics, or QED", and (4) An experiment in the PHYS 350 laboratory, performed with an increased scope or in greater detail or with more extensive data and error analysis.

There are two intermediate deadlines for this term paper. At approximately 4 weeks into the semester a term paper title, abstract and two references for topic approval by the instructors is due. Secondly, by the end of the week after Thanksgiving break, the student will turn in the term paper Introduction and Background section and provide an outline for the rest if the paper.

An example term paper can be found on D2L.

GRADING RUBRIC: Term papers will be graded according to the following rubric.

CRITERIA	EXEMPLARY 4 - 5 points	COMPETENT 2 - 3 points	BEGINNING 0 - 1 points
[redacted]			

CRITERIA	EXEMPLARY 4 - 5 points	COMPETENT 2 - 3 points	BEGINNING 0 - 1 points
Proper use of diagrams, pictures, graphs and tables for presentation of materials and data, as necessary 0 - 5 points	Report fully meets this parameter.	Proper use of diagrams, pictures, graphs and tables for presentation of materials could be improved in one or more areas.	Significant deficiencies in the use of diagrams, pictures, graphs and tables
Organized outline and		Organization and flow is	Paper is not clearly