**SYLLABUS FOR ECE 3201L INSTRUMENTATION LABORATORY Fall 2019**

**COURSE** :ECE 3201Instrumentation Laboratory

**INSTRUCTOR** : R. FRANK SMITH , OFFICE TELEPHONE (909) 869-2528, Room 9-324

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**Office Hours** They are posted outside my office. If you have any questions please come by my office or the photonics lab (9-101)

**TEXTS** : There is no formal text. Suggested laboratory projects are posted in the laboratory and on Blackboard. There are numerous past student project reports in the lab which you can review.

**OBJECTIVES** This is a student project laboratory. Student groups shall investigate an instrumentation system or sensor and determine its operating parameters and how it can be used in industry. This is a hands-on laboratory where students construct and analyze their instrumentation project. It is up to the students to form their own project team and arrange for their meeting time and place. Teams may not be bigger than four (4) students.

All students or student teams must turn in **a** project team or individual form by the fourth week. Suggested projects are posted in the laboratory.

The laboratory hours will be from 7-10 am on Wednesdays. Contact me on my cell (951-205-3700) if you need access to the lab at another time if I am on campus.

**All** students must comply with the posted lab rules. The sign-in sheet will be on my desk put both your name and time you were in the lab. Do not move or disconnect equipment in the lab without my approval.

A bi-weekly (weeks 4,6,8, etc) laboratory progress report must be e-mailed to me. Put all team members’ names on each progress report and identify which week the report is for. . Tell me what you have accomplished and what milestones you expect to accomplish during the next two weeks. There will be a grade penalty of 3 pts for each report not turned in. Weeks 14-16 are reserved for student demonstrations of their projects. ALL projects must be demonstrated to the instructor. Formal lab reports are due by the 16th week and must be submitted by e-mail.. The names on the report shall include the names of the students that have worked on the project. Do not put a student’s name on the report if they did not participate on the project activities. If a student is not participating in the group activities inform the instructor.. If you need technical help or parts contact the instructor. Pick a project that you will enjoy doing.

**Laboratory Report Organization (See Rubric below)**

1. Abstract – a synopsis of the experiment in 250 words or less
2. Introduction –Identifies the experiment, its importance and its objectives
3. Procedures – Provide enough information so that the reader can repeat and verify your results. Include calculations. Write your narrative in the1st person.
4. Results and Discussion - The discussion should only analyze the results of your experiment
5. Conclusions - Discuss the entire experiment in light of your original objectives.
6. Appendices, Bibliography, software programs, and other relevant information, and large data files..

GRADING SYSTEM

Your grade will be based on your laboratory report and project presentation.

**Submit your final report by e-mail. Please put pictures of your group on the report cover sheet.**

Project presentations shall take place on 14-16th weeks unless you finish earlier. Make appointments with the instructor.

A WORD PROCESSOR MUST BE USED TO WRITE YOUR REPORT. HANDWRITTEN REPORTS ARE NOT ACCEPTABLE. ANY STUDENT THAT VIOLATES UNIVERSITY POLICIES OR REGULATIONS SHALL RECEIVE A GRADE OF **F**. I strongly recommend that you read the university policy on plagiarism. If you use a source then give proper credit to the original author, which includes both figures and tables.

**Grading Rubric**

Include Project Title and group member’s name(s) on the cover sheet

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Possible points | 100-90 | 89-80 | 79-70 | 69-60 | < 59 |
| **Introduction** | Project objectives clearly explained | Objectives are incomplete | Objectives are not explained | Objectives are vague | No objectives are included |
| **Methods and materials** | Are the necessary methods and materials included | Some materials and methods are included | Detail steps are vague | Steps are not sufficiently explained | No material and procedural steps are included |
| **Data** | Is data well organized and are graphs properly labeled | Some of the data is incomplete | Data is only partially included | Missing important portions of the data | No data is included |
| **Calculations and software** | Calculations are clearly presented and software flow chart is clearly presented | Calculations are not clearly presented and software has incomplete supporting flow chart | Calculations are incomplete and flow chart is incomplete | Calculations are vague and flow chart is also vague | No supporting calculations or software flow chart |
| **Project presentation** | Project functions properly | Portions of project do not function | Project does not function but shows effort | Project does not function and shows no effort | Project not presented |
| **Conclusion** | Conclusion summarizes the experiment, sites data and sources of errors | One component of the conclusion is missing | More than one component of the conclusion is missing | Conclusion is missing significant information | No conclusion |
| **Report quality** | Report is well organized and clearly written | Report is well organized but it has grammatical errors | Report is not well organized and has grammatical errors | Report contains numerous errors | Attention to detail is missing |
| **Bibliography** | Is bibliography properly formatted | Is bibliography incomplete | --------------- | -------------- | There is no bibliography |

#### GENERAL PROCEDURES

## Attendance

All students are expected to attend their prearranged meeting times and place and support their team effort.

### Academic Integrity

The university takes an extremely serious view of violations of academic integrity. As member of the academic community, faculty, staff, and students are dedicated to promoting an atmosphere of honesty and are committed to maintaining the academic integrity essential to the educational process. Inherent in the commitment is the belief that academic dishonesty in all forms violates the basic principles of integrity and impedes learning.

It is the responsibility of individual faculty members to identify instances of academic dishonesty and recommend penalties to the department chair or college dean in keeping with the severity of the violation. Penalties may range from verbal chastisement to a failing grade in the course.

ANY STUDENT THAT VIOLATES UNIVERSITY POLICIES OR REGULATIONS SHALL RECEIVE A GRADE OF **F**. Cheating on an exam will result in an automatic F for the course.

### Plagiarism

Oral or written material belonging to another author which is not properly documented and which is represented as the student’s own work constitutes plagiarism. This includes both text and graphics. Any student guilty of plagiarism shall automatically be given a failing grade.

Use quotation marks to indicate the exact words of another. Summarizing a passage or rearranging the order of a sentence and changing some of the words is paraphrasing. Each time a source is paraphrased a credit for the source needs to be included in the text. See Campbell/Ballou/Slade, *Form and Style Theses, Reports, Term Papers,* Houghton Mifflin Company, Boston, MA. Simply give credit where credit is due. Arrange your bibliography alphabetically by author.