COURSE SYLLABUS, Spring 2012

PHYSICS 266

Electronics

Instructor: Tariq H. Gilani

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Office Hours:

MWF 9:30 – 11:00 AM
F (Virtual) 7 – 8 PM
or by appointment

Text: Nil

Notes and handouts: T. Gilani

Reference Books:

1. Electronic Devices –Electron flow version, Floyd, 5th Ed., Prentice Hall (2005).
2. *Foundation of electronics*, J. R. Cogdell, Prentice Hall (1999). Extra notes will be provided
3. *Microelectronic circuits*, Sedra/Smith, 3rd Ed., Sauders College Publishing (1991).
4. *The arts of electronics*, Hayes and Horowitz, Cambidge (1989).
5. *Analog Electronics for Scientific Applications*, D. Barnall, Waveland Press, Inc. (1989).
6. *Optoelectronics and Photonics*. Kassap, Prentice Hall.

Lab Notebook: Bound Lab Notebook, quad ruled, (9.75" x 7.5"). **Please bring this lab notebook to your first meeting.**

Purpose: To become familiar with performance, characteristics, and some circuit applications of selected electronic and semiconductor devices. Students will gain practical experience by designing, bread boarding, and testing a selection of commonly used circuits employing discrete and special devices.

Method of Conducting Course: Class period will include lectures, discussion, problem solving, experiments and occasional demonstrations. Supplementary topics and problems will be assigned for study outside of class. **Homework assignments must be turned in on time**. Late assignments may be accepted with reduced credit. Each student is expected to perform all of the laboratories. Your results should be recorded in lab note book.

Exams and Method of Grading: There will be two in-class exams during the semester (on dates to be announced) and a final exam. In addition to the exams, there will be a series of quizzes, homework assignments and laboratory grade. Each of these counts towards your final grade as follows:

In-class exam 1:	**20 %**
In-class exam 2:	**20 %**
Quizzes (incl Home works)**:**	**20%**
Participation	**10 %**
Final exam:	**30 %**

The quizzes will be unannounced.

Grading Scale:

93-100% A, 90-92.9% A-, 87-89.9% B+, 83-86.9% B, 80-82.9% B-, 77-79.9% C+, 70-76.9% C, 60-69.9% C-, 55-59.9% D+, 50-54.9% D, <49.9% F. The minimum score for any grade may be lowered based on the difficulty of quiz or examination questions.

Millersville University and its faculty are committed to assuring a safe and productive educational environment for all students. In order to comply with the requirements of Title IX of the Education Amendments of 1972 and the University's commitment to offering supportive measures in accordance with the new regulations issued under Title IX, the University requires faculty members to report to the University's Title IX Coordinator incidents of sexual violence shared by students. The only exceptions to the faculty member's reporting obligation are when incidents of sexual violence are communicated by a student during a classroom discussion, in a writing assignment for a class, or as part of a University-approved research project. ***Faculty members are obligated to report to the person designated in the University Protection of Minors policy sexual violence or any other abuse of a student who was, or is, a child (a person under 18 years of age) when the abuse allegedly occurred.***

Information regarding the reporting of sexual violence and the resources that are available to victims of sexual violence is set forth at: www.millersville.edu/titleix

Following main topics will be covered in this course

1. Kirchhoff's Laws, Voltage dividers, Current dividers.
2. Filters --- Bode Plots.
3. pn-junction diodes.
4. Rectifiers and power supplies.
5. Bipolar junction Transistors (BJTs).
6. Field Effect Transistors (FETs).
7. JFETs and MOSFETs.
8. Operational Amplifiers.
9. Active Filters.
10. Regulators and Power supplies.
11. Opto-electronic devices.
12. Other devices.