EEE4314L - Integrated Circuits Laboratory

One Credit, Two hours, Engineering Topic

Instructor: Pulak Bhushan.

Textbook: Nilsson, J. W., Riedel, S. A. (2011), Electric Circuit (9th ed.), Pearson Hall. ISBN9780137050512.

Specific Course Information: Laboratory experiments in integrated circuits, includes design of RF filters, analog systems, A/D and D/A systems.

Specific Goals for the Course

a. Specific outcomes of instruction

This is a Lab course in Integrated Circuits Laboratory, from this lab, you will to learn the Basic knowledge of Integrated Circuits from 6 labs:

Lab 1: Applications of Operational Amplifier

Lab 2: Voltage Regulators and Applications

Lab 3: Schmitt Trigger Comparator

Lab 4: Sinusoidal Oscillator

Lab 5: Waveform Generator

Lab 6: Active Filters

b. Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

In this course the student will have to show

(a) an ability to apply knowledge of mathematics, science, and engineering (X)

(b) an ability to design and conduct experiments (simulations), as well as to analyze, interpret data (X)

(c) an ability to design a system, component, or process to meet desired needs (X)

(d) an ability to function in multi-disciplinary teams (N/A)

(e) an ability to identify, formulate, and solve engineering problems (homework) (X)

(f) an understanding of professional and ethical responsibility (N/A)

(g) an ability to communicate effectively (through project reports) (X)

(h) the broad education necessary to understand the impact of engineering solutions in a global and societal context (X)

(i) a recognition of the need, and an ability to engage in life-long learning (N/A)

(j) a knowledge of contemporary issues (N/A)

(k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice (X)

(l) a knowledge of probability and statistics (N/A)

Brief list of the topics to be covered

Lab 1: Applications of Operational Amplifier

Lab 2: Voltage Regulators and Applications

Lab 3: Schmitt Trigger Comparator

Lab 4: Sinusoidal Oscillator

Lab 5: Waveform Generator

Lab 6: Active Filters

GRADING:

Course Requirements	Weight
Introduction	15%
Procedure & Experimental results	30%
Simulation	20%
Discussion and Analysis	20%
Conclusion	15%
Overall Grade	100%

Conversion of Numerical Grade to Letter Grade

95<=A<=100	80<=B<84	65<=C<69
90<=A-<94	75<=B-<79	60<=D<64
85<=B+<89	70<=C+<74	F: Below 60