EECE 315
Electronics I

4 Units: 3 hours lecture, 3 hour lab (Engineering topics)

Course Supervisor/Main Instructor: Meghdad Hajimorad/Ghang-Ho Lee and Meghdad Hajimorad

Required Textbook and Other Course Materials

Textbook

Software and other equipment
• Personal computer (Laptop) with webcam and microphone.
• Software, Analog Devices, LTSpice (circuit simulation).
• Software, Zoom.
• Analog Devices, ADALM2000 Active Learning Module (M2K).
• Digilent, BNC Breakout Board and accessories. (BNC cable, two oscilloscope probes).
• EECE parts kit, Breadboard, and Wire Kit.
• More detailed information on EECE parts and M2K loan are posted on EECE website.
https://www.csuchico.edu/eece.

Course Description:

Prerequisites: EECE 211, EECE 211L; EECE 311 and MATH 260 (may be taken concurrently)

Learning Objectives:

Students shall be able to:
• explain the basic concept of semiconductor physics. (SO 3)
• understand PN junction diode and able apply to circuit applications. (SO 1)
• understand BJT (Bipolar Junction Transistor) and able to design BJT amplifiers. (SO 1, 2, and 6)
• understand FET (Field-Effect Transistor) and able to design FET amplifiers. (SO 1, 2, and 6)
• able to design basic analog circuits and understand the concept of large-scale integrated circuits. (SO 1, 2, and 6)
Course Topics:

• Introduction of basic semiconductor physics.
• PN junction diode and circuit applications.
• BJT (Bipolar Junction Transistor) and circuit applications.
• BJT amplifier design and analysis.
• FET (Field-Effect Transistor) and circuit applications.
• FET amplifier design and analysis.
• Frequency Responses of BJT and FET.

Grading Scheme:

Homework - Design               20%
Laboratory                          20%
Midterm exam 1                    15%
Midterm exam 2                    15%
Final exam                          30%