EET 2605L - Electronics 1 Laboratory

Fall 2026 Syllabus, Section 01, CRN 40819,

Credit hours: 1

Instructor

Daniel Opalewski

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Public Instructor Information

Instructor Title: Dr. or Professor Daniel Opalewski

Instructor Professional Qualifications:

Ph. D., General Engineering, Kennedy Western University, 2005

Post masters, Systems Engineering Post Master Oakland University, 1989-1990

Masters, Masters of Science in Electrical Engineering, Wayne State University, 1988

Bachelors, Bachelor of Science in Electrical Engineering, Lawrence Tech University, 1984

Associates, Electrical Engineering Technology, Macomb County Community College,1976

Licensed Professional Engineer for state of Michigan, Pennsylvania and Maryland

Licensed Private Pilot, since 1978

Licensed Radio engineer, General Radio Telephone Operator License, Federal Communication Commission., 1986

Instructor Office Location: Moser 4200

Instructor Office Phone: 330-941-3286

Course Description

2605L. Electronics 1 Laboratory. Use of meters, oscilloscope, transistor curve tracer for experiments on diode characteristics, rectifier circuits, clippers, clampers, Zener regulators, BJT and FET characteristics, BJT bias circuits and amplifiers. Computer circuit analysis with PSPICE. Three hours per week. Concurrent with EET 2605. 1 s.h.

Course Readings

Group	Title	Author	ISBN
Optional	Laboratory Manual for Semiconductors ref 1 and OP Amps ref 2	James Fiore, 2021	

Note: copies of labs will be handed out Fiore is a ref for some labs. Some will be examples from our class, Floyd 10th ed text book.

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Proposed Labs

Day	Date	Reading(s)	Proposed Topic	Due/To Prepare for Class
Tue	8/25	Into to Lab Equipment, Equipment Check. Diode Properties (Fiore Ref 1: Exp 1)	Intro to lab equipment, reminder of Breadboard configuration 1st 2nd and 3rd approx lab, knee point, graphs	
Tue	9/1	Diode and Rectifier Circuits (Fiore Ref 1: Exp 3)	further exploration on diode properties and graphs	
Tue	9/8	Diode Clippers and Clampers (Fiore Ref 1: Exp 9,11)	test of clippers and clamper circuits	
Tue	9/15	Intro to Bipolar Junction Transistors	test BJT with meters for approx SDC Beta and simple experiments for or and and gate TTL	
Tue	9/22	Zener Diodes (Fiore Ref 1: Exp 6)	test zener diode circuits in the lab	
Tue	9/29	BJT Biasing (Fiore Ref 1: Exp 16)	test of bias methods for BJT	
Tue	10/6	BJT Amplifier (Fiore Ref 1: Exp 19)	Build a single stage BJT amplifier and analyze	
Tue	10/13	Class A Power Amplifier (Fiore Ref 1: Exp 23)	Build class A power amp and class B power amps, note why diodes are added to circuit	
Tue	10/20	JFET Bias (Fiore Ref 1: Exp 26)	JFET bias in multisim	
Tue	10/27	JFET Amplifiers (Fiore Ref 1: Exp 27	JFET amplifiers in multisim and a simple HW circuit	
Tue	11/3	OP Amp (Fiore Ref 2: Exp 4 or 5)	Test simple OP amplifiers, just an introduction	
Tue	11/10	Oscillators (Fiore Ref 2: Exp 17)	Build an oscillator and test	
Tue	11/17	Makeup		
Tue	11/24	Makeup, Volt reg Intro		
Tue	12/1	Exam Week no lab		

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.