

EET 2605 - Electronics 1

Fall 2026 Syllabus, Section 01, CRN 40818,

Credit hours: 3

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

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Course Description

2605. Electronics 1. Physical basis of semiconductor materials, diodes, rectifier circuits, Zener diode regulators, clippers, clampers, special purpose diodes. Bipolar junction transistors (BJT) characteristics, bias circuits, equivalent circuit models, amplifiers and field effect transistor (FET) characteristics. Prereq.: EET 1502 and EET 1502L or EET 3725 and EET 3725L, C or better in MATH 1513 or MATH 1510 or MATH 1510C and MATH 1511 or MATH 1511C. Coreq.: EET 2605L. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Required	Electronic Devices conventional current	Floyd, 10th ed	13: 978-0-13-441444-7

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

Proposed Textbook Chapters

Day	Date	Reading(s)	Proposed Topic	Due/To Prepare for Class
Mon	8/24	Intro to Semiconductors, Chpt 1	PN junction, doping	
Wed	8/26	Finish Intro to Semiconductors, Chpt 1	Bias Fwd, rev PN junction, 1st, 2nd and 3rd approximations	
Mon	8/31	More Diodes and Applications, Chpt 2	Currents and voltages, VI curve in detail, Troubleshooting	

Wed	9/2	More Diodes and Applications, Chpt 2	1/2 wave and full wave rectifiers, DC power supply, capacitor input filter, ripple voltage Clampers and clippers
Mon	9/7	Holiday	
Wed	9/9	Special Purpose Diodes, Chpt 3	Zener diode circuits and properties, data sheets
Mon	9/14	Special Purpose Diodes, Chpt 3	Zener diode applications, LEDs
Wed	9/16	Bipolar Junction Transistors, Chpt 4	BJT DC model BJT characteristics and parameters,
Mon	9/21	Bipolar Junction Transistors, Chpt 4	BJT amplifier examples AC model
Wed	9/23	Quiz 1 Diodes	
Mon	9/28	Bipolar Junction Transistors, Chpt 4	Linear and non linear applications
Wed	9/30	Bipolar Transistor Bias Circuits, Chpt 5	DC operating point, Quiescent point, load lines, saturation, cutoff
Mon	10/5	Bipolar Transistor Bias Circuits, Chpt 5	Thevenin's theorem applied to voltage divider circuit, other bias methods, datasheets
Wed	10/7	BJT Amplifiers, Chpt 6	small signal amplifiers, AC load line vs DC load line
Mon	10/12	BJT Amplifiers, Chpt 6	CE amp, voltage gain details of AC model
Wed	10/14	BJT Amplifiers, Chpt 6	multistage amplifier
Mon	10/19	BJT Power Amps, Chpt 7	Class A power amp
Wed	10/21	BJT Power Ampd, Chpt 7	Class B power amp
Mon	10/26	FET, Chpt 8	Field Effect Transistors, MOSFET, linear and nonlinear
Wed	10/28	FET, Chpt 8	Detail of curves for FET
Mon	11/2	FET Amps, Chpt 9	FET, MOSFET amps
Wed	11/4	Quiz 2	
Mon	11/9	FET AMPS, Chpt 9	Finish FET and MOSFET amps
Wed	11/11	Veteran's Day	
Mon	11/16	OP Amps, Chpt 12	
Wed	11/18	Intro to Oscillators, Chpt 13	intro only to Oscillators
Mon	11/23	Intro only to Volt reg, Chpt 17	Intro only to voltage regulators
Wed	11/25	more OP amps	simple OP Amp circuits, inverting and non-inverting
Mon	11/30	Makeup HW	
Wed	12/2	Final Exam ReviewM	
Mon	12/7	EXAM WEEK STARTS	

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.