

Course Syllabus

Course:	K230 Laser Electronics
Credits:	4
Prerequisites:	EET* K134/5 or PHO* K140 and PHO* K105/6
Time/Classroom:	Class: TR 11:00-12:15, W 1:00-2:40 B229 B213
Instructor:	Dan Courtney – dcourtney@trcc.commnet.edu
Office Hours:	TR 4:00-5:00, W 10-11
Text:	The Science of Electronics – Analog, David M. Buchla & Thomas L. Floyd

Course Description:

This course will focus on the design and analysis of electronic circuits and devices of particular interest to the field of photonics. Laser Systems will be used basic for exploring circuits used in Photonics application. The course will explore basic multistage amplifiers, power amplifiers, operational amplifiers and applications. Applications include signal processing, power supply and control systems for popular laser systems. Diode, gas, fiber, and other laser systems may be used for investigating specific applications of electronic circuits and systems. The lab portion of the course includes experiments and simulations to parallel the lecture.

**Grading: Attendance, Positive Participation, Class Notebook
In Class Assignments, Homework, Tests, Labs
All Assignments graded on Graphics/Presentation
as well as Technical Content**

Course Topics:

Course Overview
Laser Circuits & Systems Overview
Multistage, RF and Power Amplifiers
Operational Amplifiers
Op Amp Applications
Power Supplies
Control Systems
Active Filters
Laser Circuits & Systems Examples

Lab Topics:

Project Proposal
Multistage Amplifiers
Power Amplifiers
Op Amp Introduction & Applications
Voltage Multipliers
Analog Regulators
Switching Regulators
Active Filters