

Lab 313 Optoelectronics Lab

Text:	ECE313 Lab manual available online at course page.
Course Page:	http://courses.engr.wisc.edu/ecow/get/ece/313/mccaughan/
Meeting location:	50A, 1410 Engineering drive

Instructor:

Supervisor:	Jim Barner
Office:	2442 Engineering Hall(EH)
Email:	barner@engr.wisc.edu

Teaching Assistants:

Section	Schedule	Teaching Assistant, email
Lab 1	Wed. 2:25 – 5:25 pm	Chad Staus, cmstaus@wisc.edu
Lab 2	Tues. 2:25 – 5:25 pm	Chad Staus, cmstaus@wisc.edu
Lab 3	Thurs. 3:45 – 6:45 pm	Benjamin Yang, bbyang@wisc.edu
Lab 4	Mon. 3:30 – 6:30 pm	Benjamin Yang, bbyang@wisc.edu

Goals:

To familiarize students with fiber optics & optoelectronics devices and their applications in a hands-on environment

The Procedure of the class:

1. Short lecture (10 min)
2. Lab exercise (120 min)

Grading Policy:

The course grade will be based on pre-lab assignments, lab reports.

Pre-lab assignments	20%	Pre-lab exercises due at the start of the relevant lab. Each one is 4%. No pre-lab is required for the first lab. Late pre-labs will not be accepted.
Post-lab reports:	80%	Lab report is due at the start of the relevant lab. Each one is 13.33%. —Follow the post-lab report guideline on course webpage. —Each person must write and submit his or her own report. —Only one late post-lab excused(one week late as maximum), others will receive 50% penalty —Make-up lab will not be considered. You can only miss one lab without failing the course. The relevant post-report will also receive 50% penalty.

Safety points:

- Don't look directly into the HeNe laser beam or its reflection. Serious eye damage could occur.
- Don't touch the surfaces of the optical components; handle them by edges.
- Fiber stripped of its polymer buffer coat can easily penetrate the skin. Handle with care.
- Use pressured air spray on both the connector and the receptacle to remove dust before inserting an optical connector into a receptacle.

Class Schedule:

(last update: 09/12/06)

Week Beginning	Experiment	Homework Due *
Sept 11	Introduction to the Principles of Optical Waveguiding	
Sept 25	Optical Fiber, Connectors & Loss Measurements	Prelab 2, Postlab 1
Oct 9	Light Emitting Diodes (LEDs) and Lasers	Prelab 3, Postlab 2
Oct 23	Passive Fiber Optic Devices	Prelab 4, Postlab 3
Nov 6	Optoelectronic Detectors & OTDR	Prelab 5, Postlab 4
Nov 13	Fiber Optic System Simulation	Prelab 6
Nov 27	No lab	Postlab 5, Postlab 6