OSE 6455 Photonics Laboratory – Fall 2017

Pre-requisites: Graduate Standing, OSE 6349 Quantum Mechanics or PHY 5606 Physics Quantum Mechanics, OSE 6111 Optical Wave Propagation or PHY 5346 Electrodynamics I or OSE 6525 Laser Engineering

Time: 1-5 PM, Fridays
Room: CREOL 265
Instructor: Xiaoming Yu (CREOL 273)
TA: Ning Wang (CREOL 234)
Office Hour: Wednesdays, 4-5 PM, or by appointment

Goals:
1. Relate what you have learnt in classroom to what you can see in the lab of a variety topics related to photonics.
2. Take away the “fear factor” by providing experience of operating various equipment.
3. Establish good practices in experimentation including keeping a lab notebook and keeping the experiment station clean.
4. Learn to write lab reports of journal-manuscript quality/style.

Schedule:

8/25 Introduction and Lecture
9/1 LabView
9/8 Beam Propagation
9/15 Waveguides
9/22 AO

9/29 Lecture
10/6 E-O, LCD, Fiber sensor, LD
10/13 E-O, LCD, Fiber sensor, LD
10/20 E-O, LCD, Fiber sensor, LD
10/27 E-O, LCD, Fiber sensor, LD

11/3 Lecture
11/10 Fiber-Optic Communications
11/17 WDM (Wavelength-Division Multiplexing)
12/1 VPI-Simulation of Systems
Grading Policy:

Attendance 7%
Pre-Lab 9%
Lab Notebook 7%
3 Full Lab Reports 42%
1 Full Lab Report (Practice) 7%
7 Short Lab Reports 28%

A: >95
A-: 90-94
B+: 85-89
B: 80-84

Reference Books: