



Course Syllabus

OSE-4470L Fiber Optic Communication Laboratory, 1 CREDIT HOUR

Instructor: Guifang Li	Term: Fall 2020
Email: li@ucf.edu	Class Meeting Days: Monday
Phone: (407) 823-6811	Class Meeting Time: 8:30am – 11:20am (I) 3:00pm – 5:50pm (II)
TAs: Alireza Fardoost & Sailing Zhang	Class Location: CREOL: A210
Office: 53-A239	Website: webcourses@ucf
Office Hours: Before/After class	

Additional Notes: Simple questions can be quickly answered via email. For more elaborate discussions, come see me before or after the laboratory session, or by appointment.

Course Catalog Description:

Pre/Co-requisites: OSE 4470 Fiber-Optic Communications

Detailed Course Description and Learning Outcomes:

Detailed Description:

This lab course is associated with the theory course on the same topic: OSE 4470 Fiber-Optic Communications.

1. This laboratory course will enable students to relate what they have learnt in classroom to experimental observations.
2. Take away the “fear factor” by providing experience of operating various equipment.
3. Establish good practices in experimentation including accurate data collection, critical thinking, analysis of data, and identifying sources of error.
4. Learn to write lab reports.

Learning Outcomes and Measures:

Upon completing this course, students will become familiar with various fiber optic components and systems and know how to:

- Couple light in and out of fibers
- Connect fibers
- Measure losses in fibers
- Measure the performance of analog and digital fiber links

Topics: (See detailed schedule with dates at the end of this document)

The experiments are set up to cover three main topics:

1. The optical fiber as a transmission channel.
2. Optoelectronic devices used in transmitters, receivers, and multiplexers.
3. Overall communication system performance.
 - Losses associated with coupling light into or between fibers are experimentally measured.

- Performance metrics for analog and digital communication will be introduced and quantified. A wavelength-division multiplexing (WDM) system will be built and qualitatively tested.