OSE 4470L - Fiber-Optic Communications Laboratory

Section: 0001

Optics and Photonics

Course Information

Term: Spring 2026
Class Meeting Days: R
Class Meeting Time: 01:30PM - 04:20PM
Class Meeting Location: CROL A210
Modality: P
Credit Hours: 1.00

Instructor Information

Name: Dhruvkumar Desai
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Course Description

OSE 4470L OPT- 1(0,3)Fiber-Optic Communications Laboratory: CR: OSE 4470. Laboratory experiments covering the optical fiber as a communication channel, couplers, transmitters and receivers using optoelectronic devices, multiplexing, and overall systems performance. Fall.

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 learned 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

   a. keeping records in a lab notebook

   b. accurate data collection

   c. critical thinking

   d. analysis of data

   e. identifying sources of error

4. Write lab reports.

Student Learning Outcomes

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

1. Couple light in and out of fibers
2. Connect fibers
3. Measure losses in fibers

Measure the performance of analog and digital fiber links

Required Course Materials and Resources

Course Materials

Subtitle: Laboratory instructions

Course Assessment and Grading Procedure

Course Grading and Requirements for Success

Attendance & Participation: 10%

Short Lab Reports: 48% (8% for each lab)

1 Full Lab Report: 14%

2 Quizzes: 12% (6% each)

Lab Notebook: 10%

Lab Skills Test: 6%

Grading Scale

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Letter Grade	Percentage
A	94-100%
A-	90-93%
B+	87-89%
B	84-86%
B-	80-83%
C+	77-79%
C	74-76%
C-	70-73%
D+	67-69%
D	64-66%
D-	61-63%
F	0-60%

Policies for Course Grade

Makeup Policy:

If an emergency arises and a student cannot 1) show up for class or 2) submit assigned work on time, the student **must** give notification to the instructor **no less than 24 hours before** the scheduled lab, or **no more than 48 hours after due date,** respectively**.**

Disability Access & Accommodations

The University of Central Florida is committed to providing equal access to all students with disabilities (ADHD, learning disabilities, Autism, chronic medical conditions, physical disabilities, etc.). To receive consideration for reasonable disability-related course accommodations, disabled students must contact Student Accessibility Services (SAS) and complete the steps required for SAS to review accommodation requests. More information can be found on the UCF [Student Accessibility Services](#) website under the Start Here tab or by contacting SAS directly (Ferrell Commons 185; [sas@ucf.edu;](mailto:sas@ucf.edu) Phone - 407-823-2371).

Approved accommodations are shared with course instructors via the SAS Course Accessibility Letter. Implementing certain accommodations may require discussion about specific considerations of the course design, course learning objectives, and the individual academic and course challenges experienced by the student. While students with disabilities or chronic health needs are also encouraged to discuss any course concerns with professors in addition to contacting SAS, professors are not required to facilitate disability-related adjustments to the course unless the professor has received a Course Accessibility Letter from SAS that outlines approved accommodations.

Academic Integrity

Students should familiarize themselves with UCF's Code of Conduct at Student Conduct and Integrity Office. According to Section 1, "Academic Misconduct,"

students are prohibited from engaging in:

1. Academic misconduct is defined as any submitted work or behavior that obstructs the instructor of record's ability to accurately assess the student's understanding or completion of course materials or degree requirements (e.g., assignment, quiz, and/or exam). Examples of academic misconduct include but are not limited to: plagiarism, unauthorized assistance to complete an academic exercise; unauthorized communication with others during an examination, course assessment, or project; falsifying or misrepresenting academic work; providing misleading information to create a personal advantage to complete course/degree requirements; or multiple submission(s) of academic work without permission of the instructor of record.

2. Any student who knowingly helps another violate academic behavior standards is also in violation of the standards.

3. Commercial Use of Academic Material. Selling of course material to another person and/or uploading course material to a third-party vendor without authorization or without the express permission of the University and the instructor of record. Course materials include but are not limited to class notes, the instructor of record's slide deck, tests, quizzes, labs, instruction sheets, homework, study guides, and handouts.

4. Soliciting assistance with academic coursework and/or degree requirements. The solicitation of assistance with an assignment, lab, quiz, test, paper, etc., without authorization of the instructor of record or designee is prohibited. This includes but is not limited to asking for answers to a quiz, trading answers, or offering to pay another to complete an assignment. It is considered Academic Misconduct to solicit assistance with academic coursework and/or degree requirements, even if the solicitation did not yield actual assistance (for example, if there was no response to the solicitation).

Responses to Academic Dishonesty, Plagiarism, or Cheating

Students should also familiarize themselves with the procedures for academic misconduct in UCF's student handbook, *The Golden Rule*. UCF faculty members have a responsibility for students' education and the value of a UCF degree, and so seek to prevent unethical behavior and respond to academic misconduct when

necessary. Penalties for violating rules, policies, and instructions within this course can range from a zero on the exercise to an "F" letter grade in the course. In addition, an Academic Misconduct report could be filed with the Office of Student Conduct and Academic Integrity, which could lead to disciplinary warning, disciplinary probation, or deferred suspension or separation from the University through suspension, dismissal, or expulsion with the addition of a "Z" designated on one's transcript.

Being found in violation of academic conduct standards could result in a student having to disclose such behavior on a graduate school application, being removed from a leadership position within a student organization, the recipient of scholarships, participation in University activities such as study abroad, internships, etc.

Let's avoid all of this by demonstrating values of honesty, trust, and integrity. No grade is worth compromising your integrity and moving your moral compass. Stay true to doing the right thing: take the zero, not a shortcut.

Title IX

Title IX prohibits sex discrimination, including sexual misconduct, sexual violence, sexual harassment, and retaliation. If you or someone you know has been harassed or assaulted, you can find resources available to support the victim, including confidential resources and information concerning reporting options at [Let's Be Clear](#) and [UCF Cares](#).

For more information on access and community engagement, Title IX, accessibility, or UCF's complaint processes contact:

- Title IX – ONAC – [Office of Nondiscrimination & Accommodations Compliance](#) & [askanadvocate@ucf.edu](#)
- Disability Accommodation – Student Accessibility Services – [Student Accessibility Services](#) & [sas@ucf.edu](#)
- [Access and Community Engagement](#) (including the Ginsberg Center for Inclusion and Community Engagement, Military and Veteran Student Success, and HSI Initiatives)

- UCF Compliance and Ethics Office – [Compliance, Ethics, and Risk Office](#) & [complianceandethics@ucf.edu](#)
- The [Ombuds Office](#) is a safe place to discuss concerns.

Reporting an Incident or Issue

If you believe you have experienced discrimination by any faculty or staff member, contact the Office of Nondiscrimination & Accommodations Compliance via the [ONAC website](#) or at 407-823-1336. You can also choose to report using the UCF Integrity Line either anonymously or as yourself at 1-855-877-6049 or by using the [online form](#). UCF cares about you and takes every report seriously. For more information see the [Reporting an Incident or Issue Webpage](#).

Deployed Active-Duty Military Students

Students who are deployed active-duty military and/or National Guard personnel and require accommodation should contact their instructors as soon as possible after the semester begins and/or after they receive notification of deployment to make arrangements.

Campus Safety

At UCF's Public Safety and Police, safety is the top priority. Emergencies on campus are rare, but if one should arise, it's important to be familiar with some basic safety and security concepts.

- In an emergency, always dial 911.
- Every UCF Classroom has an Emergency Procedure Guide posted on a wall near the door, which will show you how to respond to a variety of situations. This guide can also be found online [here](#).
- In the event of an active threat, remember **AVOID, DENY, DEFEND**. Choose the best course of action and act immediately. Watch the video [here](#) to learn more.
  - **AVOID**. Pay attention to your surroundings and have an exit plan. Get as much distance and as many barriers between you and the threat as

quickly as possible.

- ○ **DENY**. When avoiding is difficult or impossible, deny the threat access to you and your space. Lockdown by creating barriers, turning the lights off and remaining quiet and out of sight. Make sure your phone is silenced, but do not turn it off.

- ○ **DEFEND**. When you are unable to put distance between yourself and the threat, be prepared to protect yourself. Commit to your actions, be aggressive and do not fight fairly. Do whatever it takes to survive.

- For emergencies on campus, UCF will utilize the [UCF Alert](#) system. All UCF students, faculty, and staff are automatically enrolled to receive these email and text alerts, however, it's a good idea to frequently ensure your [contact information is up to date](#).

Financial Aid Accountability

All instructors are required to document students' academic activity at the beginning of each course. In order to document that you began this course, please complete this activity by the end of the first week of classes or as soon as possible after adding the course. Failure to do so may result in a delay in the disbursement of your financial aid.

Class Schedule

OSE-4470 Fiber Optic Communication Laboratory: Tentative Weekly Schedule			
Week	Date	Lab Topic	Note
1	Jan 15	1 - Fiber Cleaving + Numerical Aperture of a Fiber	Lab (in-class)
2	Jan 22	1 - Lab 1 Report Due, Zoom Office Hour	Report Due
3	Jan 29	2 - Coupling into Fiber + Profile of Fundamental Mode	Lab (in-class)

4	Feb 5	2 - Lab 2 Report Due, Zoom Office Hour	Report Due
5	Feb 12	3 - High-Order Modes in Fiber, Quiz 1	Lab (in-class) Quiz 1
6	Feb 19	3 - Lab 3 Report Due 4 - Coupling and Propagation Loss	Report Due Lab (in-class)
7	Feb 26	4 - Lab 4 Report Due, Zoom Office Hour	Report Due
8	Mar 5	Lab Skills Test, Quiz 2	Lab (in-class) Quiz 2
9	Mar 12	5 - Analog Communication Link	Lab (in-class)
10	Mar 19	Spring Break – no class	no class
11	Mar 26	5 - Lab 5 Report Due, Zoom Office Hour	Report Due
12	Apr 2	6 - Digital Communication Link	Lab (in-class)
13	Apr 9	6 - Lab 6 Report Due, Zoom Office Hour	Report Due
14	Apr 16	7 - Wavelength Division Multiplexing	Lab (in-class)
15	Apr 23	7 - Lab 7 Report Due, Zoom Office Hour	Report Due
16	Apr 30	Lab 4 Long Report Due	