Clemson University
Department of Electrical and Computer Engineering
ECE 8370, Advanced Fiber Optics
Spring, 2022

Professor:
Dr. Liang Dong
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Text (optional):
Optical Fiber Communications Principles and Practice, 3rd edition, by John M. Senior, 2009, FT Prentice Hall, ISBN: 978-0-13-032681-2

Prerequisites: ECE380, ECE 381, ECE 427, ECE 430 or equivalent courses in EM theory and telecommunication theory.
Co-requisites: None

Class Hours:
Tuesday/Thursday: 3:30-4:45 PM, Riggs 219

Office Hours:
Please email to arrange office hours

Goals of the Course:
The goal of this course is to provide advanced understanding of key concepts in optical fiber communications, including waveguide theories, optical fiber properties, and passive/active optical fiber devices.

Attendance:
Students are required to be present during class hours. This is without exception, unless prior arrangements are made. Lecture will be posted on Blackboard. Some lectures may cover material not found in the textbook. It is the responsibility of each student to make up any deficiencies that result from a missed class. If the instructor does do not arrive within 15 minutes of the start of class and no prior arrangements have been made, class will be canceled for that day.

Important Administrative Dates:
See Clemson announcements

No class dates:
TBA

Testing Procedures:
N/A.

Grading:
Final grades will be assigned according to weighted overall performance where each student's work will be weighted according to the schedule:

1. Attendance: 10%
2. 4 assignments @17.5% each
3. 1 final exam @ 20%
4. a final grade assigned based on the scale
   90-100 -> A
   80-90 -> B
   70-80 - >C
   <70 -> F

Any assignment or test missed will be given a grade of zero and there is no policy of dropping the lowest grades.

Late assignment penalty:
1. 2% next day.
2. 1% each day therefore after.

Testing:
The test and assignment dates will be given in advance in the schedule on Canvas.

Academic Integrity:
No cheating will be tolerated. Collaboration on homework assignments is acceptable as long as it is a shared effort. The official statement on Academic Integrity is as follows: *"As members of the Clemson University community, we have inherited Thomas Green Clemson's vision of this institution as a 'high seminary of learning.' Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty distracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating, or stealing in any form."*

Student Disability Service
Students with disabilities requesting accommodations should make an appointment with Dr. Margaret Camp (656-6848), Director of Disability Services, to discuss specific needs within the first month of classes. Students should present a Faculty Accommodation Letter from Student Disability Services when they meet with instructors. Accommodations are not retroactive and new Faculty Accommodation Letters must be presented each semester.

Clemson University Title IX Statement
Clemson University is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender, pregnancy, national origin, age, disability, veteran's status, genetic information or protected activity (e.g., opposition to prohibited discrimination or participation in any complaint process, etc.) in employment, educational programs and activities, admissions and financial aid. This includes a prohibition against sexual harassment and sexual violence as mandated by Title IX of the Education Amendments of 1972. This policy is located at http://www.clemson.edu/campuslife/campus-services/access/title-ix/. Mr. Jerry Knighton is the Clemson University Title IX Coordinator. He also is the Director of Access and Equity. His office is located at 111 Holtzendorff Hall, 864.656.3181 (voice) or 864.565.0899 (TDD).

Tentative Course Outline:

Topics Covered	Classes
1. Optical fiber waveguides	4
2. Transmission characteristics of optical fibers	3
3. Various types of optical fibers	2
4. Fabrication techniques	2
5. Optical fiber measurements	2
6. Passive optical fiber components and devices	3
7. Optical fiber amplifiers	3
8. Optical fiber lasers	3
9. Photonic crystal fibers	3
Total Hours:	25

Updated 1/4/2021