California State University, Chico
Department of Electrical and Computer Engineering

EECE 598, Special Topic (Optical Communications), Fall 2014

Instructor:	Dr. Ghang-Ho Lee
Office location:	OCNL 309
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Office hours:	TBD
Class days and times:	Tu/Th 3:30 – 5:20PM
Classroom:	OCNL 119
Laboratory and times:	TBD
Laboratory:	OCNL 339
Prerequisites:	EECE 211, EECE 311, EECE senior standing

Course Usage of Blackboard Vista

Copies of the course syllabus, major notes, and assignments will be found on Vista. You are responsible for regularly checking the online resources, which is accessed through the Chico State Portal at http://portal.csuchico.edu.

Course Description and Objectives

- Analyze beam propagation in optical waveguides and free space (for wireless applications).
- Understand photonic phenomena in optical materials.
- Understand principle concepts behind optical communications.
- Formulate specifications for optical wireless communication systems, integrated circuits for optical communications, and fiber optic communication systems.
- Develop design techniques for light sources, optical receivers, and optical amplifiers.
- Develop design techniques for integrated circuits used in optical communications.

Required Texts/Readings

Textbook (Required)
G.Keiser, Optical Fiber Communications, 4th Ed, McGraw Hill, 2011

References
- Design of Integrated Circuits for Optical Communications, 2nd Ed, Wiley, 2012
- Advanced Optical Wireless Communication systems, Cambridge Univ. Press, 2012
- Fiber-Optic Communication Systems, 4th Ed, Wiley, 2010 (available via online library)

Classroom Protocol
- Arrive in class on time.
- No food allowed during class.

Dropping and Adding
You are responsible for understanding the policies and procedures about add/drops, academic renewal, etc. found http://www.csuchico.edu/catalog/. You should be aware of the new deadlines and penalties for adding and dropping classes.

Assignments
- Students will need to prepare 2 ~ 3 presentations for given topics during the semester.
- Students will need to submit "Audience Reports" for each presentation.

Grading Policy
- Presentations and Audience Report (30%)
- Midterm exam 1 (20%)
  90 min (tentative)
  No Calculators, Closed book
- Midterm exam 2 (20%)
  90 min (tentative)
  No Calculators, Closed book
- Final Presentation (30%)
  Date will be announced

University Policies and Campus Resources

Academic integrity
Students are expected to be familiar with the University's Academic Integrity Policy. Your own commitment to learning, as evidenced by your enrollment at California State University, Chico, and the University's Academic Integrity Policy requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the Office of Student Judicial Affairs. The policy on academic integrity and other resources related to student conduct can be found at: http://www.csuchico.edu/sjd/integrity.shtml.

Campus Policy in Compliance with the American Disabilities Act
If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Students with disabilities requesting accommodations must register with the DSS Office (Disability Support Services) to establish a record of their disability. Special accommodations for exams require ample notice to the testing office and must be submitted to the instructor well in advance of the exam date.

Disability Services
If you need course adaptations or accommodations because of a disability or chronic illness, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Please also contact Disability Support Services (DSS) as they are the designated department responsible for approving and coordinating reasonable accommodations and services for students with disabilities. DSS will help you understand your rights and responsibilities under the Americans with Disabilities Act and provide you further assistance with requesting and arranging accommodations. The Disability Support Services website is http://www.csuchico.edu/dss.

Student Learning Center (Optional)
The mission of the Student Learning Center (SLC) is to provide services that will assist CSU, Chico students to become independent learners. The SLC prepares and supports students in their college course work by offering a variety of programs and resources to meet student needs. The SLC facilitates the academic transition and retention of students from high schools and community colleges by providing study strategy information, content subject tutoring, and supplemental instruction. The SLC is online at http://www.csuchico.edu/slc. The University Writing Center has been combined with the Student Learning Center.

Course Topics

(Note: subject to change with fair notice.)

- Optical Beam Propagation.
- Optical Materials.
- Optical Sources, Detectors, Amplifiers.
- Optical Indoor Wireless Communication.
- Optical Wireless Channel.
- Hybrid RF and Free Space Optical Communication.
- WDM (Wavelength Division Multiplexing) Communication.
- Visible Light Communication.
- Integrated Circuits for Optical Communications.