COURSE DETAIL

OPTOELECTRONICS AND PHOTONICS
Country Korea, South
Host Institution Yonsei University
Program(s) Yonsei University
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Electrical Engineering
UCEAP Course Number 115
UCEAP Course Suffix
UCEAP Official Title OPTOELECTRONICS AND PHOTONICS
UCEAP Transcript Title OPTOELEC&PHOTONICS
UCEAP Quarter Units 4.50
UCEAP Semester Units 3.00

Course Description

This course explores the basics of opto-electronics and photonics, which has many applications areas in information and communication technologies. By the end of the semester, students should have basic knowledge of (1) what light is, (2) how the basic property of light can be modeled, and (3) how light can be used for various applications. Topics include basics of electromagnetism, maxwell's equations, plane-wave solutions, polarization, EM waves in conductor, total internal reflection, interference, light incident on conductors, light incident on dielectric interface, multiple dielectric interface, interferometers, diffraction, metallic waveguides, dielectric waveguides, 2-D dielectric waveguides, optical fiber, waveguide devices, photons, interaction between light and matter, optical amplifiers, semiconductors, semiconductor lasers, single mode lasers, and photodetectors.

Prerequisite: Basic knowledge in electromagnetism

Language(s) of Instruction
English

Host Institution Course Number
EEE3150

Host Institution Course Title
OPTOELECTRONICS AND PHOTONICS

Host Institution Course Details

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Course Last Reviewed

2024-2025

Print