

# COURSE DETAIL

## OPTICAL SYSTEM DESIGN

**Country**

Taiwan

**Host Institution**

National Taiwan University

**Program(s)**

National Taiwan University

**UCEAP Course Level**

Upper Division

**UCEAP Subject Area(s)**

Electrical Engineering Computer Science

**UCEAP Course Number**

131

**UCEAP Course Suffix****UCEAP Official Title**

OPTICAL SYSTEM DESIGN

**UCEAP Transcript Title**

OPTICAL SYST DESIGN

**UCEAP Quarter Units**

4.50

**UCEAP Semester Units**

3.00

## Course Description

This course provides the basic tools and knowledge needed to design optical systems. At the end of the course, students will be able to take system requirements, select possible components and approaches, create candidate designs, and analyze and optimize their performance. Students learn and utilize standard optical design tools, particularly ray-tracing, as well as learning how to create custom system models with wave, polarization, or Gaussian-beam optical modeling. The course objectives include basic design techniques for ray optics; wave optics in isotropic media; design concepts for optical instruments (microscope, telescope, camera lenses); aberration in optical system (real world problems); how to select optical components (lenses, fibers, optical source and detectors); and optical CAD tools discussion (ZEMAX education version).

## Language(s) of Instruction

English

## Host Institution Course Number

OE5031

## Host Institution Course Title

OPTICAL SYSTEM DESIGN

## Host Institution Campus

## Host Institution Faculty

## Host Institution Degree

## Host Institution Department

Electrical Engineering

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