

# COURSE DETAIL

## PHYSICS: OPTICS AND OPTICAL DESIGN

**Country**

Sweden

**Host Institution**

Lund University

**Program(s)**

Lund University

**UCEAP Course Level**

Upper Division

**UCEAP Subject Area(s)**

Physics Engineering

**UCEAP Course Number**

103

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

PHYSICS: OPTICS AND OPTICAL DESIGN

**UCEAP Transcript Title**

OPTICS OPTICAL DES

**UCEAP Quarter Units**

6.00

**UCEAP Semester Units**

4.00

## **Course Description**

This course is designed to acquire knowledge of fundamental and advanced concepts in optics, and a general understanding of when and how these concepts are possible and appropriate to use. The course deals with optical devices and their operation and aims to provide students with practical knowledge in optical design using a ray-tracing program. The course has the following content. Every topic is coupled to a chapter or parts of a chapter in the course book: Ray optics, matrix formulation; Wave optics, interference; Fourier optics, diffraction; Electromagnetic optics; Anisotropic media; Polarization, Jones matrix formalism; and Optics of layered media and photonic crystals.

### **Language(s) of Instruction**

English

### **Host Institution Course Number**

FYST94/FAFN45

### **Host Institution Course Title**

PHYSICS: OPTICS AND OPTICAL DESIGN

### **Host Institution Course Details**

<https://www.lunduniversity.lu.se/lubas/i-uoh-lu-FYST94>

### **Host Institution Campus**

Lund

### **Host Institution Faculty**

Science

### **Host Institution Degree**

### **Host Institution Department**

### **Course Last Reviewed**

2025-2026

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