

COURSE DETAIL

ADVANCED OPTICS AND LASERS

Country

Sweden

Host Institution

Lund University

Program(s)

Lund University

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Physics Engineering

UCEAP Course Number

164

UCEAP Course Suffix**UCEAP Official Title**

ADVANCED OPTICS AND LASERS

UCEAP Transcript Title

ADV OPTICS LASERS

UCEAP Quarter Units

6.00

UCEAP Semester Units

4.00

Course Description

This course covers basic and advanced techniques for manipulating and controlling laser light and laser pulses. This involves controlling intensity, frequency distribution, temporal profiles in order to design advanced optical systems for specialized tasks in industry as well as research. The course covers the following topics: Light propagation in anisotropic materials; Acusto-optical effects and modulators; electro-optical effects and modulators, non-linear interaction between light and matter; ultrafast optics, propagation of short laser pulses in dispersive non-linear media; and basic laser safety. Assumed prior knowledge: Basic Physics, Mathematics and Optics.

Language(s) of Instruction

English

Host Institution Course Number

FAFN10

Host Institution Course Title

ADVANCED OPTICS AND LASERS

Host Institution Course Details

https://kurser.lth.se/kursplaner/25_26-en/FAFN10.pdf

Host Institution Campus

Lund

Host Institution Faculty

Engineering

Host Institution Degree

Host Institution Department

Course Last Reviewed

2025-2026

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