

SYLLABUS

Optics II 7.5 credits F7007T

Optik II

Course syllabus admitted: Autumn 2009 Sp 1 - Autumn 2009 Sp 2

DECISION

The syllabus was established by the Department of Applied Physics and Mechanical Engineering 2007-02-28, and remains valid from autumn 2007.

Optics II 7.5 credits F7007T

Optik II

Second cycle, F7007T

Education level	Grade scale	Subject	Subject group (SCB)
Second cycle	G U 3 4 5	Experimentell mekanik	Engineering Physics

Entry requirements

Optics I or Electromagnetic field theory and basic knowledge in Matlab.

Selection

The selection is based on 30-285 credits

Examiner

Mikael Sjödaahl

Course Aim

To give the student a frame work to address specific problems in optics using numerical tools.

Contents

Applications within optics using different approximations of Maxwell's equations will be covered with a specific focus on numerical methods and digital optics. Examples include geometrical optics and ray-tracing, Physical and statistical optics including spectral methods, near-field optics, scattering, speckles and the phase determination, optical fibres, quasi-classical detection of light. Inverse problems will also be covered.

Realization

Lectures, computer exercises and a project. The focus will be on individual work on the computer exercises and the project.

Examination

Hand-in problems and project presentation both written and orally.

Remarks

The course is given in English if requested.

Literature. Valid from Autumn 2007 Sp 1

Classical optics and its Applications, Masud Mansuripur (Cambridge University Press, 2002, Cambridge UK). ISBN 0 521 80499 X.

Course offered by

Department of Engineering Sciences and Mathematics

Items/credits

Number	Type	Credits	Grade
0001	Assignment	4.5	G U 3 4 5
0002	Project	3	G U 3 4 5

Last revised

The syllabus was established by the Department of Applied Physics and Mechanical Engineering 2007-02-28, and remains valid from autumn 2007.

Syllabus established

The syllabus was established by the Department of Applied Physics and Mechanical Engineering 2007-02-28, and remains valid from autumn 2007.