#### **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.



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## **Optics II 7.5 credits F7007T**

#### **Optik II**

Second cycle, F7007T

Education levelGrade scaleSubjectSubject group (SCB)Second cycleG U 3 4 5Experimentell mekanikEngineering 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 Sjödahl

#### **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 inluding 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 reguested.

## 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.



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## **Course offered by**

Department of Engineering Sciences and Mathematics

## **Items/credits**

Number	Туре	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

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