

Wave Physics

Programme course

4 credits

Vågfysik - teori och tillämpning

TFEI02

Valid from: 2017 Spring semester

Determined by Board of Studies for Electrical Engineering, Physics and Mathematics

Date determined 2017-01-25

Main field of study

Applied Physics, Physics

Course level

First cycle

Advancement level

G1X

Course offered for

• Engineering Electronics

Entry requirements

Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

Prerequisites

Basic course in one variable calculus

Intended learning outcomes

The course gives fundamental knowledge in wave physics and its applications in natural phenomena and technology. After taking this course the student should

- know fundamental wave physics concepts and the wave equation
- know and perform simple calculations in fundamental acoustics and optics
- know about wave physics applications within natural phenomena as well as modern technology

Course content

Physical modelling and problem solving. Fundamental physical concepts and relations. Mechanical waves including acoustics, electromagnetic waves including optics. Wave physics applications/uses in biology, data transmission, electronics, chemistry, medicin, music, optics, radio, radar etc.

Teaching and working methods

Teaching is given as lectures and lessons



Examination

TEN1 Written exam

4 credits

U, 3, 4, 5

Grades Four-grade scale, LiU, U, 3, 4, 5

Department

Institutionen för fysik, kemi och biologi

Director of Studies or equivalent

Magnus Boman

Examiner

Kenneth Järrendahl

Course website and other links

https://www.ifm.liu.se/edu/coursescms/TFEI02/

Education components

Preliminary scheduled hours: 32 h Recommended self-study hours: 75 h

Course literature

Göran Jönsson och Elisabeth Nilsson, Våglära och optik, Teach Support 2007



Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at http://styrdokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva.

