FIO3000 Winter School on Photonics for Energy 2.0 credits

Vinterskola i fotonik för energi

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Course syllabus for FIO3000 valid from Autumn 2010

Grading scale

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Education cycle

Third cycle

Specific prerequisites

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

The aim of the winterschool is to give an overview of the ongoing research on photonics relevant to energy needs of today and tomorrow. The student who attends this work shop will comprehend the importance of photonics for energy research but also will be inspired

to find interdisciplinary approach and novel routes to use photonics and optics for energy solutions.

Course contents

Solidstate Lighting, EU visionon photovoltaic, Research Funding by the, Swedish Research Council, Nanowires for solar cell applications-I, Nanowires for solar cell applications-II, Basics of Plasmonics, Plasmonics for energy saving, Colloidal Q-dotsolar cells, Solid state solar cells, "Nano photonic Solutions for, High-Quality White LEDs", Organic materials for photovoltaic, Organic light emitting diodes, Solar business-from research to enterprise

Disposition

Besides the above academic lectures, EU vision on photovoltaic will be presented by are presentative from EU commissionin Brussels and Commercial exploitation of research results will be presented by a researcher/entrepreneur from Uppsala. We also take this opportunity to provide the students an exposure to the Swedish research funding system, which will be done by a representative from Swedish Research Council.

EU visionon photovoltaic, Solarbusiness-from research to enterprise, Research Funding by the, Swedish Research Council, To activate the participants a panel discussionon "How much can photonics do for future energy economics?" is also arranged.

Examination

Based on recommendation from KTH’s coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

Other requirements for final grade

A collection of questions from all the lecturers should be answered. Those who obtain 60% and above are eligible to get 2 ECTS.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.

- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.