# EF2215 Plasma Physics II 7.5 credits

**Plasmafysik II**

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

## Establishment

Course syllabus for EF2215 valid from Autumn 2010

## Grading scale

A, B, C, D, E, FX, F

## Education cycle

Second cycle

## Main field of study

Electrical Engineering, Physics, Engineering Physics

## Specific prerequisites

EF2200 Plasma physics or equivalent

For single course students: documented proficiency in English B or equivalent.

## Language of instruction

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

## Intended learning outcomes

After completed course, the students should able to

- reproduce basic equations (as detailed in the syllabus) and explain the physical principles behind them
- show command of short derivations and show understanding of principles behind longer derivations
- give physical interpretation of the results of derivations

## Course contents

Klimontovich approach, spectral densities of fluctuations, kinetic Boltzmann equation and collision integrals, Fokker-Planck equation.

Wave particle interactions. Collision-free absorption mechanisms.

Scattering and transformation of transverse and longitudinal waves in plasmas. Radiation scattering as a noninvasive plasma diagnostic.

## Course literature

Meddelas vid kursstart.

## Examination

- TEN1 - Examination, 7.5 credits, grading scale: A, B, C, D, E, FX, F

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

Oral examination, hand-in assignments.

## 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.