



FCK3106 The Chemistry of Wood 7.5 credits

Trädets kemi

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

Establishment

Course syllabus for FCK3106 valid from Autumn 2020

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

Eligible for studies at the third-cycle level.

Language of instruction

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

Intended learning outcomes

After passing the course the student shall have deep knowledge about:

- Different phylogenetic groups of plant and plant evolution.

- Basic biology of plants
- Wood and plant fibre morphology
- Carbohydrate classification and chemistry
- Structure and properties of cellulose, hemicelluloses, pectin, lignin, extractives and inorganic wood content.
- Biosynthesis of wood and wood components.
- Wood degrading microorganisms.

Course contents

Utveckling av växtriket och olika fylogenetiska grupper av växter

- Växtbiologi
- Översikt över skogsbruket
- Morfologi av trä och träceller
- Morfologi och användning av icke-träväxtfibrer
- Kolhydratkemi
- Cellulosastruktur och egenskaper
- Struktur och egenskaper hos hemicellulosor och pektin
- Ligninstruktur och egenskaper
- Lignin-kolhydratnätverk
- Olika grupper av extraktivämnen och deras egenskaper
- Oorganiskt innehåll i trä
- Biosyntes av växtcellväggspolysackarider och lignin
- Olika grupper av träfnedbrytande mikroorganismer och deras egenskaper
- Enzymer som bryter ned träpolymerer
- Översikt över teknisk användning av enzymer inom massa- och pappersindustrin

Examination

- TEN1 - Oral examination, 7.5 credits, grading scale: P, 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.

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.