Linnæus University

Jnr: 2016/75-3.1.2.2

Course syllabus

Faculty of Technology
Department of Forestry and Wood Technology

4TS316 Termo-hydromekanisk bearbetning, 7,5 högskolepoäng
Thermo Hydro Mechanical processing, 7.5 credits

Main field of study
Forest and Wood Engineering

Subject Group
Forest Science

Level of classification
Second Level

Progression
A1F

Date of Ratification
Approved by Faculty of Technology 2016-01-11
The course syllabus is valid from autumn semester 2016

Prerequisites
Basic eligibility for second-level studies as well as knowledge corresponding to the courses Forest products, 7.5 credits, Mechanics, 7.5 credits, Wood manufacturing, 7.5 credits and Virkets ytbehandling och kemisk modifiering (Wood finishing and chemical modification), 7.5 credits or equivalent.

Objectives
After completing the course, the students should be able to:

- Analyse and based on theory explain changes in wood characteristics because of Thermo-hydro-mechanical (THM) treatment.
- Experimentally study the changes of the wood material depending on process parameters during THM treatment.
- Critically analyse and compare different THM processes based on function and requirements of potential applications.
- Suggest and motivate production processes for THM treatment of wood.
- Analyse and suggest development of research within the THM area.

Content
The course consists of following elements:
• Introduction to the thermo-hydro-mechanical (THM) process for wood manufacturing industry and the relationship between THM processes and chemical modification of wood.• Methods and processes for THM treatment of wood• Processes of defining charactersitics of wood• Function and requirement specification of THM applications• Wood strength and rheology• Experimental work with THM processes

Type of Instruction

Lectures, seminars, study visit and laboratory work. For distance students, a computer with internet access is necessary.

Examination

The course is assessed with the grades A, B, C, D, E, Fx or F.
The grade A constitutes the highest grade on the scale and the remaining grades follow in descending order where the grade E is the lowest grade on the scale that will result in a pass. The grade F means that the student's performance is assessed as fail (i.e. received the grade F).

This course is examined through project report and written exam.

Course Evaluation

During the course or in close connection to the course, a course evaluation is to be carried out. The result and analysis of the course evaluation are to be communicated to the students who have taken the course and to the students who are to participate in the course the next time it is offered. The course evaluation is carried out anonymously. The compiled report will be filed at the Faculty.

Other

Grade criteria for the A–F scale are communicated to the student through a special document. The student is to be informed about the grade criteria for the course by the start of the course at the latest.

Required Reading and Additional Study Material

Requried Reading

Navi, P. & Sandberg, D. Thermo-Hydro-Mechanical Processing of Wood, 1 st Edition, CRC Press, Taylor & Francis Group, Florida. ISBN: 978-1-4398-6042-7, 355 sidor

Selected scientific articles.