

PULP AND PAPER PROCESSES

1.1. Identification

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|-------------|---|--|-------------|----------------|--------------|----------------|------------------------------|----------------|-------------|--|--------------|--|---|
| University: | Kungl Tekniska Högskolan (KTH), Stockholm, Sweden | | | | | | | | | | | | |
| School: | School of Chemical, Science and Technology | | | | | | | | | | | | |
| Course: | Pulp and paper processes | | | | | | | | | | | | |
| ECTS: | 9 | | | | | | | | | | | | |
| Semester: | <i>Winter</i> | | | | X | <i>Summer</i> | | | | | | | |
| Category | <i>Fundamental course</i> | | | | | | <i>Specialisation course</i> | | | | | | X |
| Module | <i>MFI</i> | | <i>MFII</i> | | <i>MFIII</i> | | <i>MSI</i> | X | <i>MSII</i> | | <i>MSIII</i> | | |
| Teachers: | Mikael Lindström | | | | | | | | | | | | |
| Language: | <i>English</i> | | X | <i>Italian</i> | | <i>Swedish</i> | X | <i>Spanish</i> | | | | | |

1.2. Learning-outcomes

- knowledge in the technologies and processes involved in making paper from wood.
- knowledge about the impact of process changes on the economy of the pulp and paper production.

1.3. Competencies

▪ General

- to have critical understanding of technical and scientific tools
- to work and manage teams
- communication skills (both written and oral)
- to work in an international context

▪ Specific

- To give a description of the equipment and processes used in pulp and paper production and the methods for pulp property evaluation.
- To define and assess pulps with respect to the properties of the end-product
- To evaluate the impact of process changes on the economy of the pulp and paper production
- To summarise scientific information obtained both from published literature and from laboratory results and present it orally and in written reports

1.4. Contents

Production of papermaking pulps according to different methods (mechanical and chemical) from different wood materials, including wood properties and wood handling.

Evaluation of pulp properties and the effects of process conditions. Chemical recovery systems and equipment. The flow sheet in papermaking systems, retention chemistry and the processes for stock preparation, forming, pressing, drying, calendering and coating

1.5. Teaching Methodology

- Lecture sessions
- Practical sessions: "cooperative work" for solving problems
- laboratory sessions
- Study trip

1.6. Evaluation

- written exams
- oral evaluation of the problems solved by "cooperative work"
- oral evaluation of laboratory work

1.7. Bibliography

- Pulp, paper and board, I.F. Hendry and W.J.H. Hanssens, Elsevier Applied Science, 1987
- Pulp Technology. The Ljungberg Textbook