



FOREST PRODUCTS INDUSTRY
RESEARCH COLLEGE

DRAFT schedule for

Course: The Sodium/Sulfur-Balance in a Pulp Mill

Course leader: Prof. Ulf Germgård

Date: February 4-8, 2019

Place: Karlstad University (KaU), Karlstad, Sweden

Principal Lecturers

Professor Ulf Germgård, KaU	ulf.germgard@kau.se	(UG)
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Wednesday, February 6

08.00 – 17.00

Lecture

LECTURER

Simulation models, LignoBoost (Bäckhammar pulp mill)

21. Visit to the Bäckhammar pulp mill (“Robin Ivarsson” 0550-345000) 2 ½ h RI
 22. Lunch
 23. Visit to the LignoBoost pilot at Bäckhammar 2h PT
 24. Soap splitting and utilization of tall oil ½ h HM
 25. Assignments for Friday 1/4 h UG
 26. h UG

Thursday, February 7 [Room?]

08.30 – 17.00

Lecture

LECTURER

Mill case, Assignments, see Appendix

27. Assignment 1. General assignments 1h HA, HM, LN, UG
 28. Assignment 2. Group assignments (to be presented 2/11) 2h, HA, HM, LN, UG
 29. Lunch
 30. Assignment 3. Individual assignments (to be presented 2/11) 4h HA, HM, LN, UG

Friday, February 8

[Room ?]

09.00 – 13.00

Lecture

LECTURER

Mill case, Assignments

31. Presentation of Assignments 2 ½ h UG, LN, HA, MM
 32. Will Na/S balances become more/ less important in the future? 1h UG
 33. Na/S balances are used in kraft mills but can it be used also in sulfite mills, SGW-mills and CTMP-mills? ½ h UG,
 34. Summary, Evaluation, Written examination, 1h UG
 35. Lunch and end of course

Appendix

General assignments.

1. Will better brown stock wash influence the Na/S balance if the pulp mill make up is Na_2CO_3 ?
 2. Can a new bleaching sequence in a pulp mill have an influence on the Na/S-balance?
 3. Could a new ClO_2 generator in a pulp mill have an influence on the SO_2 -emissions from the recovery boiler?
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Group assignments

- 1 Higher ds of the black liquor that is sent to the to the recovery boiler will increase (decrease ?) the SO_2 emissions from the recovery boiler?
 - 2 Is it possible that in an ECF bleaching sequence the active chlorine consumption per ton of pulp will go down if the sodium/ sulfur ratio in the white liquor goes down (up?)
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Individual assignments

- 1 Integration of a viscose plant and a sodium based dissolving pulp mill.
- 2 D:o for an acid dissolving sodium sulfite mill.