



Course: **Regenerated Cellulose and Cellulose Derivatives**

Course leader: **PhD Helena Håkansson**

Date: November 08-11, 2022

Place: **Karlstad University**, Karlstad, Sweden

Lecturers:

Professor Gunnar Henriksson	KTH, SW	g Henrik@kth.se	GH
Professor Herbert Sixta	Aalto University, FI	herbert.sixta@aalto.fi	HS
Professor Gunnar Westman	Chalmers, SW	westman@chalmers.se	GW
PhD Helena Håkansson	Karlstad University, SW	helena.hakansson@kau.se	HH
PhD Sigvart Evjen	Borregaard, NO	sigvart.evjen@borregaard.com	BK
PhD Jutta Speda	Freudenberg, SW	jutta.speda@fhp-ww.com	JS
PhD Leif Karlson	Nouryon, SW	leif.karlson@nouryon.com	LK
PhD Reeta Salminen	Nouryon, SW	reeta.salminen@nouryon.com	RS
PhD Johan Erlandsson	KTH, SW	jerland@kth.se	JE

Tuesday, November 08 09.30-17.00 Room:

Overview, Cellulose chemistry, Viscose	LECTURER
09.30-10.30 Introduction, General overview	HH
10.45-12.00 Cellulose structures, chemistry of derivatization	GH
LUNCH	
13.00-13.45 Cellulose structures, cont.	GH
14.00-15.00 Viscose process	HH
COFFE BREAK	
15.30-17.00 Viscose process cont., lab visit	HH

18.30 DINNER

Wednesday, November 09 09.00-17.00 Room: ?

Dissolving pulp, Cellulose derivatives, new development	LECTURER
09.00-10.00 CMC manufacturing and properties	RS
10.15-11.30 EHEC and other cellulose derivatives	LK
LUNCH	
12.30-13.30 Borregaard- a specialty cellulose producer	SE
13.45-14.30 Activation and reactivity of dissolving pulps	SE
COFFE BREAK	
15.00-16.00 Periodate oxidation - Cellulose dialdehydes	JE

Thursday, November 10 08.15-17.00 Room:

Lyocell, Spinning processes, New developments	LECTURER
09.00- 10.00 Introduction to assignments, starting up groups, setting date for online seminar and written exam	HH
10.00-12.00 Lyocell process	HS (online to room)
LUNCH	
13.00- 15.00 Spinning processes	HS (online to room)
15.30-17.00 New cellulose derivatives and the challenges in their development	GW

Friday, November 11, 07.15-17.00 Norrköping

Visit to Freudenberg	LECTURER
07.15-10.30 Bus ride to Norrköping	
10.30 – 12.00 Visit to Freudenberg HP Production plant	JS
LUNCH	
13.00-14.15 Plant tour	JS
14.15-17.00 Bus ride back to Karlstad	

TBD, 2 hr Follow up seminar on ZOOM

Seminar	LECTURER
Presentation of assignments, reflections and evaluation	HH