



Course: **Regenerated Cellulose and Cellulose Derivatives**

Course leader: **PhD Helena Håkansson**

Date: February 10-13, 2025

Place: **Karlstad University**, Karlstad, Sweden
(online attendance will also be possible)

Lecturers:

Professor Gunnar Henriksson	KTH/Karlstad University	g Henrik@kth.se	GH
Professor Herbert Sixta	Aalto University	herbert.sixta@aalto.fi	HS
Professor Gunnar Westman	Chalmers	westman@chalmers.se	GW
PhD Helena Håkansson	Karlstad University	helena.hakansson@kau.se	HH
PhD Catharina Fechter	Södra Bioproducts	catharina.fechter@sodra.com	CF
PhD Oleksandr Nechyporchuk	RISE	oleksandr.nechyporchuk@ri.se	ON
PhD Leif Karlson	Nouryon	leif.karlson@nouryon.com	LK
PhD Raghu Deshpande	RYAM	raghu.deshpande@ryam.com	RD

Monday, February 10 09.30-17.00 Room: 9D313

Overview, Cellulose chemistry, Viscose	LECTURER
09.30-10.30 Introduction, General overview	HH
10.30-12.00 Cellulose structures, chemistry of derivatization	GH
LUNCH	
13.00-15.00 Chemistry of derivatization, cont	GH
COFFEE BREAK	
15.00-16.30 Viscose process	HH
16.30-17.00 Viscose cont, lab visit	HH

Tuesday, February 11 09.00-17.00 Room: 9D313

Dissolving pulp, Cellulose derivatives	LECTURER
9.00-11.00 Dissolving pulps, processes and products at Södra, quality demands and how to reach them	CF
11.15-12.00 Cellulose esters	HH
LUNCH	
13.00-14.00 CMC and EHEC manufacturing and properties	LK
COFFEE BREAK	
14.30-15.30 CMC, EHEC and other cellulose derivatives in industrial applications	LK
15.45-16.45 Dissolving sulphite cellulose pulp production for special applications	RD (online to room)

Wednesday, February 12 09.00-17.00 Room: 9D321

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	
13.00-14.30 Spinning techniques	ON (online to room)
COFFFE BREAK	
15.00- 16.30 New cellulose derivatives and the challenges in their development	GW

Thursday, February 13, Norrköping

Visit to Freudenberg	LECTURER
Own transport to Norrköping	
10.30 – 12.00 Visit to Freudenberg HP Production plant	Prel time
LUNCH	
13.00-14.15 Plant tour	Prel time
END	

TBD, 2 hr Follow up seminar on ZOOM

Seminar	LECTURER
---------	----------

Presentation of assignments, reflections and evaluation	HH
---------------------------------------------------------	----

TBD, 4hr Written home examination