

“Chemistry of sustainable recycling”, KZ8024, 7.5hp

The course consists of

Lectures and four different experimental lab project work. Presentations are seminars where the results from the labs are presented and discussed.

For each lab also, a short written report will be required.

Literature

The recommended literature is composed of articles and eBooks available at the Stockholm University Library. A detailed list will be supplied.

In addition, a locally produced material for guidance to the lab projects will be available

Teachers in the course

EZ: Erica Zeglio (Kemikum)	erica.zeglio@su.se
LE: Lars Eriksson (Kemikum)	lars.eriksson@su.se
BD: Biswanath Das (Kemikum)	biswanath.das@su.se
SM: Sara Mattiello (Milano Bicocca)	sara.mattiello@unimib.it
AA: Anumol Ashok (Kemikum)	anumol.ashok@su.se
EN: Elisabetta Nocerino (Kemikum)	elisabetta.nocerino@su.se

Lab assistants

Fengyang Wang (Kemikum)	fengyang.wang@su.se
Anuja Pradip Nawadkar (Kemikum)	anuja.nawadkar@su.se

Room for lecture F1 – F14 is **C516**

Room for presentations P1 – P3 is **C513**, P4 is **C516**

Rooms for the lab experiments, in total 4 projects are: **M306** and **M320**

The labs at KÖL, will mainly be used for preparations and wet lab activities.

Different localities at Kemikum for instrument related analysis, such as electron microscopy and X-ray diffraction.

The language will be English. Most of the software used will be freeware available for download to your own laptop computer.

“Chemistry for sustainable recycling”, KZ8024, 7.5hp. [23/3-2026 ... 03/5-2026]

F = Föreläsning/lektion/lecture/lesson; L=Lab/exercise, P=Presentation.

Week	Date	10-12	P 13-15:00 / L 13-17
13	23-mars	F1 Introduction (EZ and LE)	Compulsory lab safety introduction and exam
	24	F2 Metal recycling (EZ)	L1 (Metal recycling, electronic waste)
	25	F3 Thermodynamics and sustainability (LE)	L1 (Metal recycling, electronic waste)
	26	F4 SEM (AA)	L1 (Metal recycling, electronic waste)
	27	Preparation for presentation, free location	P1
14	30	F5 Recycling and speciation, nutrients (EZ)	L2 (Phosphate recycling)
	31	F6 X-ray diffraction (EN) (9:30-12)	L2 (Phosphate recycling)
	1-apr	F7 Solar power, photovoltaics (EZ)	L2 (Phosphate recycling)
	2	Maundy Thursday	
	3	Good Friday	
		Easter Eve / Easter Sunday	
15	6	Easter Monday	
	7		
	8		
	9		
	10		
16	13	F8 Sustainable plastic materials (EZ)	L3 (Textile recycling)
	14	F9 Textiles recycling (EZ)	L3 (Textile recycling)
	15	F10 CCU (BD)	Study visit
	16	F11 Batteries (EZ)	L3 (Textile recycling)
	17	Preparation for presentation, free location	P2+P3
17	20	F12 Organic batteries: opportunities and challenges (SM)	13:30-14:30 Research seminar L4 (Battery recycling)
	21	F13 Alternative energy storage/energy saving devices: electrochromic devices and redox flow batteries (SM)	L4 (Battery recycling)
	22	F14 Biodegradable materials (EZ)	L4 (Battery recycling)
	23	Preparation for presentation, free location	P4
	24		
18	27	F14 Repetition, Q & A (C545)	
	28		
	29		
	30	Exam, on site (room: K433-K439)	

1

2

3