“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
AM: Aji P. Matthew (Kemikum)	aji.mathew@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.see

Room for lecture F1 – F13 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.

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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 (AM)	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)	

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