

## **“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***

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LJ: Lars Josefsson (Sustainable Chemistry AB)

Room for lecture F1 – F12 is .

Rooms for the lab experiments, in total 4 projects are:

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

Different localities at MMK 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	13.15-17
12	20-mars	<i>End of previous course</i>	
	21	<b>F1</b> Sustainable thermodynamics (LE)	L1 (Metal recycling, electronic waste)
	22		
13	25	<b>F2</b> Metal recycling (LE)	L1 (Metal recycling, electronic waste)
	26	<b>F3</b> SEM (KJ)	L1 (Metal recycling, electronic waste)
	27	Preparation for presentation, free location	<b>P1</b>
	28	Maundy Thursday	
	29	Good Friday	
		Easter eve / Easter Sunday	
14	1-april	Easter Monday	
	2		
	3		
	4		
	5		
15	8	<b>F4</b> Batteries (EZ)	L2 (Battery recycling)
	9	<b>F5</b> X-ray diffraction (LE)	L2 (Battery recycling)
	10	<b>F6</b> Intro to nutrients and speciation (LE)	L2 (Battery recycling)
	11	Preparation for presentation, free location	<b>P2</b>
	12		
16	15	<b>F7</b> Sustainable plastic materials (LJ) ( <b>zoom</b> )	L3 (Plastic recycling)
	16	<b>F8</b> Energy or material recycling of plastics? Health related issues (EZ)	L3 (Plastic recycling)
	17	<b>F9</b> Recycling and speciation, nutrients (LE)	L3 (Plastic recycling)
	18	Preparation for presentation, free location	<b>P3</b>
	19		
17	22	<b>F10</b> Textiles? Aji?	L4 (Phosphate recycling)
	23	<b>F11</b> GHG and carbon recycling, (EZ)	L4 (Phosphate recycling)
	24	<b>F12</b> Solar power, photovoltaics, (EZ)	L4 (Phosphate recycling)
	25		<b>P4</b>
	26		
18	29	<b>F13</b> Repetition, Q & A	
	30		
	31	<b>Exam, on site</b>	
	1-may		