

SYLLABUS

Industrial Environmental and Process Technology, part II 7.5 credits T0004K

Industriell miljö- och processteknik, fortsättningskurs

Course syllabus admitted: Autumn 2011 Sp 2 - Autumn 2013 Sp 2

**DECISION DATE
2011-10-05**

Industrial Environmental and Process Technology, part II 7.5 credits T0004K

Industriell miljö- och processteknik, fortsättningskurs

First cycle, T0004K

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	G U 3 4 5	Kemisk teknologi	Chemical Engineering

Entry requirements

In order to meet the general entry requirements for first cycle studies you must have successfully completed upper secondary education and documented skills in English language and Basic courses in Physical chemistry, Organic chemistry, Inorganic chemistry and Chemical equilibrium

Selection

The selection is based on 1-165 credits.

Examiner

Jonas Hedlund

Course Aim

After completed course the student shall:

- Understand and be able to describe the most common chemical processes for manufacturing of fossil and renewable chemicals and fuels in chemical industry.
- Be able to explain why many of the processes need a catalyst and, on a basic level, be able to describe some common catalysts.
- Understand and be able to describe what the necessary process conditions are for effective production.

- Understand and be able to describe the most common processes for purification of gas streams in chemical industry.

- Be able to identify and describe some environmental harmful processes and how to minimize the effect on the environment

Contents

In this course the following topics are discussed:

- Introduction to Chemical Technology
- Heterogeneous catalysis
- How fossil fuels and chemicals are produced

- How renewable fuels and chemicals may be produced
- Purification of gas streams

Realization

Each course occasion's language and form is stated and appear on the course page on Luleå University of Technology's website.

The instruction consists of lectures, visits at relevant industrial plants and a laboratory project where the students are given opportunity to apply their chemistry knowledge. The project is presented both orally and in written form. The students will, in addition to obtain theoretical knowledge in chemical technology, develops their skills to work in groups and oral/written presentation abilities.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided.

The examination comprises laboratory project and written individual exam with grades according to U (Failed), 3, 4 and 5 and ECTS-grades according to F (failed), FX (failed), E, D, C, B and A. To pass the laboratory project, the oral and written presentation has to be passed. The grades are failed or passed. Students who have failed an examination on five occasions will not be allowed further resits.

Literature. Valid from Autumn 2011 Sp 1

J. Moulijn, Chemical Process Technology, Wiley, 2001, Chichester.
Some handed out extra material

Course offered by

Department of Civil, Environmental and Natural Resources Engineering

Items/credits

Number	Type	Credits	Grade
0001	Written exam	5.5	G U 3 4 5
0002	Project work	2	U G#

Last revised

by Eva Gunneriusson 2011-10-05

Syllabus established

by Eva Gunneriusson 2011-02-04