

**SYLLABUS**

# **Production of renewable and fossil products and fuels 7.5 credits T0005K**

**Framställning av förnybara och fossila produkter samt bränslen**

**Course syllabus admitted: Spring 2019 Sp 3 - Present**

**DECISION DATE  
2018-11-07**

# Production of renewable and fossil products and fuels 7.5 credits T005K

## Framställning av förnybara och fossila produkter samt bränslen

### First cycle, T005K

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

### Main field of study

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 Water Chemistry

## Selection

The selection is based on 1-165 credits.

## Examiner

Liang Yu

## 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 environmentally harmful processes and how to minimize the effects on the environment

## Contents

In this course the following topics are discussed:

- Introduction to Chemical Industry
- Heterogeneous catalysis
- How fossil fuels and products are produced
- How renewable fuels and products 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 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 of a laboratory project and a written individual exam with grades according to U (Failed), 3, 4 and 5.

To pass the laboratory project, the oral presentation and the written presentation have to be approved. 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 2014 Sp 1

J. Moulijn, Chemical Process Technology, Wiley-Blackwell, 2013.

Extra material handed out.

## Course offered by

Department of Civil, Environmental and Natural Resources Engineering

## Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0001	Written exam	G U 3 4 5	5.5	Mandatory	A14	
0002	Project work	U G#	2	Mandatory	A14	

## Last revised

by Assistant Director of Undergraduate Studies Eva Gunneriusson, Department of Civil, Environmental and Natural Resources Engineering 2018-11-07

## Syllabus established

by Eva Gunneriusson 2014-02-11