

SYLLABUS

High Temperature Processes 7.5 credits P0001K

Högtemperaturprocesser

Course syllabus admitted: Spring 2021 Sp 4 - Present

**DECISION DATE
2021-01-14**

High Temperature Processes 7.5 credits P0001K

Högtemperaturprocesser

First cycle, P0001K

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	G U 3 4 5	Processmetallurgi	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 Chemical Principles (K0016K), Physical Chemistry (K0010K)

Selection

The selection is based on 1-165 credits.

Examiner

Andreas Lennartsson

Course Aim

After completing the course, the student shall be able to

- describe and explain the unit processes which are common within high temperature processes
- describe and apply the theoretical bases for high temperature processes
- from a theoretical and practical view give an account for the extraction of the most common metals
- describe techniques for gas cleaning in high temperature processes and hypothetically design and justify the selections of equipment
- in oral and written presentation suggest solutions to technical problems related to high temperature processes

Contents

Lectures, exercises, laboratory experiments, project tasks related to the industry and study trips to metallurgical process industries are all included in the course. Thermodynamic calculations using FactSage.

Realization

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

In the education lectures are combined with exercises, laboratory experiments, project tasks and study trips. The lectures and exercises will give the students the opportunity to practically and theoretically describe high temperature processes and train the ability to make calculations related to the processes. Laboratory experiments and project tasks related to the industry are carried out as group work. As the laboratory experiments are carried out, the students will perform and evaluate tests and in a written report present the sequence of work and the results attained. Performing the project task the students will, based on computer simulations and other course contents, suggest and justify choices of process techniques for industrial high temperature processes. The project task is shown in oral and written presentation. The study trips connect contents from lectures, laboratory exercises and project task with applications in the industry.

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. Approved results for laboratory exercise and project task including oral and written presentation. For laboratory exercise and project task the marks not approved or approved are given. The knowledge in high temperature processes is controlled with a written exam in which the grades U, 3, 4 or 5 are given. Students who have failed an examination on five occasions will not be allowed further resits.

Remarks

Compulsory attendance at the first lecture, laboratory exercise, study trips, project introduction and project presentations. The course is given at basic level and is included in the MSc programme in Chemical Engineering. A study guide for the course is found in Fronter.

Overlap

The course P0001K is equal to KGP001, P0006K

Literature. Valid from Spring 2015 Sp 3

Compendium located at the Department of Civil, Environmental and Natural Resources Engineering: Process Metallurgy Part 1. Unit processes, Thermodynamic considerations and environmental issues.

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	5.3	Mandatory	A07	
0002	Required assignment	U G#	2.2	Mandatory	A07	

Last revised

by Assistant Director of Undergraduate Studies Eva Gunneriusson, Department of Civil, Environmental and Natural

Resources Engineering 2021-01-14

Syllabus established

by the Department of Chemical Engineering and Geosciences 2007-02-28