SYLLABUS

Ore Genetic Models 7.5 credits O7009K

Malmgenetiska modeller

Course syllabus admitted: Autumn 2023 Sp 1 - Present

DECISION DATE
2021-02-17

Luleå University of Technology 971 87 Luleå, Sweden
Phone: +46 (0)920 49 10 00 • Corporate Identity: 202100-2841

LULEÅ TEKNISKA UNIVERSITET

Ore Genetic Models 7.5 credits O7009K

Malmgenetiska modeller

Second cycle, O7009K

Education level	Grade scale	Subject	Subject group (SCB)
Second cycle	G U 3 4 5	Malmgeologi	Earth Science and Physical Geography

Main field of study

Geosciences

Entry requirements

90 credits in geoscience.

Selection

The selection is based on 30-285 credits

Course Aim

The main objectives of the course:
1) have knowledge about ore forming processes and different origins for hydrothermal ore systems.
2) have knowledge of the conditions of formation and occurrence of the most common ore types.
3) be able to understand and critically discuss important aspects of ore-forming processes such as origin, transport and precipitation of metals as well as the importance of physical and chemical traps for ores.
4) have knowledge of ore forming processes in a plate tectonic perspective and importance of local geological conditions.
5) be able to relate the choice of exploration methods to different kind of ore deposits and local conditions.

Contents

Review of the most common ore types with respect to:
ore forming processes of: i) magmatic, ii) hydrothermal, and iii) sedimentary deposits
b) occurrence of ore deposits in a plate tectonic perspective
c) critical and diagnostic parameters such as: source, transport and deposition of metals.
d) important criteria such as: i) metal zoning, ii) alteration types and zoning iii) temperature of ore formation iv) host rocks.

Project work in the form of critical review/discussion of ore genetic aspects based on published models for a selected ore type.

Realization

Each course occasion´s language and form is stated and appear on the course page on Luleå University of Technology's website.
Lectures where basic theory is presented and explained and includes genetically important aspects of the ore-forming processes for the economically most important ore types and compulsory exercises with written reports linked to respective ore type with a focus on genetic interpretation of mineralogical-textured properties of ores.
Project work with critical review of ore genetic models with written and oral presentation.

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. Graded written exam and compulsory exercise reports, and approved project work.

Unauthorized aids during exams and assessments

If a student, by using unauthorized aids, tries to mislead during an exam or when a study performance is to be assessed, disciplinary measures may be taken. The term “unauthorized aids” refers to aids that the teacher has not previously specified as permissible aids and that may assist in solving the examination task. This means that all aids not specified as permissible are prohibited. The Swedish version has interpretative precedence in the event of a conflict.

Overlap

The course O7009K is equal to KGO008

The course O7009K is equal to KGO008.

Course offered by

Department of Civil, Environmental and Natural Resources Engineering

Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0004	Written exam	G U 3 4 5	5.5	Mandatory	A13	
0008	Exercise	G U 3 4 5	1	Mandatory	S15	
0010	Project work	U G#	1	Mandatory	A21	

Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

Last revised

by Assistant Director of Undergraduate Studies Eva Gunneriusson, Department of Civil, Environmental and Natural Resources Engineering 2021-02-17

Syllabus established

Course plan approved by the Department of Chemical Engineering and Geosciences 2007-02-28.