

**SYLLABUS**

# **Fuels 7.5 credits F7034T**

**Bränslen**

**Course syllabus admitted: Spring 2024 Sp 3 - Present**

**DECISION DATE  
2023-06-15**

# Fuels 7.5 credits F7034T

## Bränslen

### Second cycle, F7034T

**Education level**  
Second cycle

**Grade scale**  
G U 3 4 5

**Subject**  
Energiteknik

**Subject group (SCB)**  
Energy Technology

## Entry requirements

The courses F0040T and F0032T.

## Selection

The selection is based on 30-285 credits

## Course Aim

1. Knowledge and understanding:

- Identify, explain, exemplify and illustrate different fuels from the aspects of distribution, production, utilizations and environmental impacts.
- Identify, explain, exemplify and illustrate different areas and significance in engineering applications.

2. Skill and ability:

- Compare and illustrate the characteristics of fuels including the advantage and facing problems.
- Clarify how different fuels affect environment from production to utilization.
- Suggest new and apply the available tax and policy to affect fuel use and future development.

3. Judgment and Attitude:

- Analyze the past and current situations and then visualize the fuel mix for the future.
- Have the ability to discuss from engineering aspects, understand the need for new knowledge and acknowledge the challenges and latest research the energy area faces.

## Contents

- Fossil fuels (petroleum, coal, natural gas, CO2 capture, storage and utilization);
- Nuclear (Fusion, Fission);
- Biomass (forest fuels and agriculture crops, peat, waste);
- Fuel taxation and policy;
- Hydrogen as an energy carrier.

## Realization

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

Lectures, study-visits, group discussion/presentation and report writing.

## 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. Report writing and presenting their report (6.5 HP) with different grades (3, 4, or 5).

Study-visit (1.0 HP) without grade.

## 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.

## Course offered by

Department of Engineering Sciences and Mathematics

## Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0002	Study Visit	U G#	1	Mandatory	S12	
0003	Written Report	G U 3 4 5	6.5	Mandatory	A13	

## 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 Mats Näsström, acting Head of Undergraduate Education 2023-06-15

## Syllabus established

by Department of Engineering Sciences and Mathematics 2011-02-07