



KE2325 Process Design for Industry and Society 15.0 credits

Processdesign för industri och samhälle

Course syllabus for KE2325 valid from Autumn 15

This is a translation of the Swedish, legally binding, course syllabus.

Grading scale: P, F

Education cycle: Second cycle

Main field of study: Chemical Science and Engineering

Intended learning outcomes

The course has two main goals. The first is to make the students familiar with how to work in a project organisation, common in industry and administration. The method for this is to carry out a study estimate of a new, realistic idea in a project group while working in a project organisation. The second goal is to apply a lot of the basic technical knowledge from earlier courses in the curriculum.

After completion of the course the student should be able to:

- Describe the most important aspects of working in a project organisation
- Be able to work in a project organization when carrying out smaller or larger tasks.
- Describe the different levels of precision relevant for the investigation of a project idea.
- Carry out an investigation on the study estimate level
- Identify the information needed for the completion of the study estimate
- Assess the information with reference to relevance, accuracy and its impact on the technical and the economical outcome of the study estimate.
- Plan and gather the technical data required for the carrying out of mass and heat balances describing the actual project idea.
- Identify a relevant system boundary for the technical analysis
- Identify and collect the economical data that is needed for an economical analysis on the study estimate level.
- Identify a relevant system boundary for the economical analysis
- Show, by the writing of a technical report that they know the standard way of writing technical reports (style, lay-out and organisation)
- Interpret, value and comment on, both the technical and the economical results of the study estimate.
- Justify the conclusions drawn
- Defend the results against external criticism
- Propose how the results may be used
- Show, by giving an oral presentation, how the results of an investigation should be presented to a certain audience (specified)

Course main content

Discussions on relevant items concerning work in a group, work in a project and the art of making a study estimate. System analysis. Optimization. Cost engineering. Design and sizing of systems based on chemical processes. Sensitivity analysis. Constructing material. Safety issues. Environmental aspects.

Language of instruction

Language of instruction is specified in the course offering information in the course and programme directory.

Eligibility

Admission requirements for programme students at KTH:

At least 150 credits from grades 1, 2 and 3 of which at least 110 credits from years 1 and 2, and bachelor's work must be completed, within a programme that includes:

75 university credits (hp) in chemistry or chemical engineering, 20 university credits (hp) in mathematics and 6 university credits (hp) in computer science or corresponding.

Admission requirements for independent students:

75 university credits (hp) in chemistry or chemical engineering, 20 university credits (hp) in mathematics and 6 university credits (hp) in computer science or corresponding. Documented proficiency in English corresponding to English B.

Literature

The course literature will be announced closer to the course starts.

Examination

- PRO1 - Project, 15.0 credits, grading scale: P, F

Requirements for final grade

Passed project (PRO1; 15 credits)