



*Course syllabus*

# Ingenjörssyrkespraktik Engineering Internship Course

**IYP000, 15 credits, G2 (First Cycle)**

**Valid for:** 2023/24

**Faculty:** Faculty of Engineering, LTH

**Decided by:** LGGU

**Date of Decision:** 2023-04-24

## General Information

**Externally elective for:** B4, BI3, BME4, C4, D4, E4, F4, I4, K4, L4, M4, MD4, N4, Pi4, RH4, V4, W4, R4, BR4

**Language of instruction:** The course will be given in Swedish

## Aim

The course is designed to give students knowledge about, and an understanding of, technical, theoretical and practical issues related to the perspective of working engineers. During the internship, the student is to apply previously acquired theoretical and practical knowledge in engineering tasks in a real-world situation, which is to give insight into the purpose of the individual's education as well as an understanding of the need for continued studies. The course is to give an overview of the demands placed on professional engineers and the skills they are expected to have in professional life that are not of a strictly technical nature, but often directly connected to the work of professional engineers, i.e. an understanding of what an engineering education does and does not provide. The course also aims to give the student a general insight into how a company works on issues such as intelligence monitoring, ethics, sustainable development and the work environment. The student is also to develop their ability to be a constructive colleague. The internship assignment at the host organisation is to have a sufficiently high degree of complexity to allow the student to apply their theoretical knowledge. Consideration is to be given to the internship assignment's relevance to the programme. The host organisation is a workplace for, and involving, engineers. There must be a sufficient number of employed engineers to ensure that the internship is conducted in an engineering-oriented environment. It is not the task of the intern to provide technical know-how in the host organisation.

## Learning outcomes

### *Knowledge and understanding*

For a passing grade the student must

- describe and reflect on the requirements beyond engineering-specific expertise that are set in professional life. (1)
- account for the knowledge and understanding of technical subjects that are of particular importance at the host organisation. (2)
- account for the knowledge of current technical work that has been acquired at the host organisation. (3)
- independently obtain information about the company and engineering sector/industry and describe the company and the sector the company operates in, including how the selected host organisation is organised and how they work on issues such as intelligence monitoring, ethics, sustainable development and work environment. (4)

### *Competences and skills*

For a passing grade the student must

- apply theoretical and practical knowledge to engineering tasks, which includes independently, under supervision, searching for, selecting, critically evaluating, and applying appropriate information and methods to solve the tasks.(5)
- plan and complete tasks within given timeframes. (6)
- in writing and orally, account for, and discuss, their own conclusions and the knowledge that acts as a foundation for these, by describing how through the education previously developed knowledge and abilities can be integrated and applied in an engineering environment. (7)

### *Judgement and approach*

For a passing grade the student must

- reflect on their personal ability to collaborate with professional engineers and other professional stakeholders in the field of engineering in order to complete assigned tasks.(8)
- demonstrate insight and account for their own need for further professional development. (9)
- reflect on and demonstrate insight into the professional role of engineers now and in the future and their own professional approach as a prospective engineer. (10)

## Contents

- The course content and subject-related course design are to be formulated in an internship plan resulting from a consultation involving the examiner, student, LTH department supervisor and supervisor at the host organisation.
- Internship-specific question to be investigated.
- The professional role of the engineer: participation in tasks, under supervision, that are relevant for engineers in the subject area.
- The professional role of the engineer: how different experiences and knowledge are put to use in a professional context, as well as how the need for additional knowledge is identified and how additional knowledge is obtained.

- Project organisation: which different technical roles are there in a company and how do these collaborate.
- Business organisation: how companies are organised, how they work on issues such as intelligence monitoring, ethics, sustainable development and work environment.
- General skills in engineering: oral and written communication, how to be a constructive colleague, e.g., how to collaborate with other professional stakeholders.

## Examination details

**Grading scale:** UG - (U,G) - (Fail, Pass)

**Assessment:** During the internship period, attendance at the host organisation is compulsory. Participation at the introduction meeting and at the final seminar are compulsory. Throughout the course, even during the internship period at the host organisation, the student is to allocate time to work on weekly reflections, the chosen question and the internship report. Assessed course components must not include confidential materials. Written weekly reflections on specific themes. Every weekly reflection is an assignment of 300-600 words. Assessment of learning outcomes 1,4,7,10. Written peer assessments of selected weekly reflections. Assessment of learning outcomes 7,10. The weekly reflections and written peer assessments are submitted to the examiner during the course in accordance with predetermined deadlines. A written internship report (1,000-1,500 words): a report about the internship and an analysis of assignments that were carried out, including the internship assignment. The report relates to the student's previous studies in engineering. Assessment of learning outcomes 1, 2, 3, 4, 7, 8, 9, 10. Written account (1,000-2,000 words) of the question the intern has chosen to focus on. Assessment of learning outcomes 2, 3, 4, 5, 7. Written internship assignment: one or more examples of tasks carried out within the framework for the advanced and, to a certain extent, independent tasks allocated by the host organisation. The internship assignment must not cover confidential materials. Assessment of learning outcomes 5,6,8,9. The written internship report, the written account of the question the intern has chosen to focus on and the written internship assignment are submitted to the examiner at the end of the course in accordance with predetermined deadlines. The student's external perspective is important in the writing of the weekly reflections and internship report. As a newcomer to the host organisation, the student is not blinded by familiarity with the structure and conventions the host organisation has developed. The student can rather relate independently and reflectively to what they encounter at the host organisation. The oral seminar assesses learning outcomes 1,4,7,9,10. The seminar is scheduled shortly after the internship has ended. In addition, a certificate of attendance provided by the supervisor at the host organisation, containing a description of the scope and orientation of the internship, is to be submitted to the examiner shortly after the internship has ended.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

### Parts

**Code:** 0123. **Name:** Internship.

**Credits:** 10,5. **Grading scale:** UG. **Assessment:** Written internship report. **Contents:** Teaching takes place at the selected host organisation under supervision and in project form. During the internship period, attendance at the host organisation is compulsory. Participation at the introduction meeting and at the final seminar are compulsory.

**Code:** 0223. **Name:** Theory.

**Credits:** 4,5. **Grading scale:** UG. **Assessment:** Written internship report, written account of the question the intern has chosen to focus on, written weekly reflections, oral seminar and written peer assessment.

**Contents:** Internship report, question the student has chosen to focus on, oral seminar, weekly reflections, written peer assessment.

## Admission

### Admission requirements:

- In order to be accepted to the course, the student must have completed at least 150 credits equivalent to the compulsory/elective mandatory courses in years 1-3 of a Degree of Master of Science in Engineering programme at LTH. Only completed courses will be considered. This requirement is checked by the programme planner for the relevant programme. The student must also possess sufficient knowledge in the relevant subject area for the selected host organisation. The examiner and the supervisor at LTH will determine if the requirement for prior knowledge has been met before the internship starts.

**The number of participants is limited to:** No

**The course overlaps following course/s:** IYT000

## Reading list

- Sveriges Ingenjörers hederskodex. <https://www.sverigesingenjorer.se/om-forbundet/organisation/hederskodex/>.
- <https://www.sverigesingenjorer.se/din-situation/pluggar-till-ingenjor>.
- <https://www.sverigesingenjorer.se/medlemskap/ny-pa-jobbet/>.
- Arbetsmiljöverkets författningssamling. <https://www.av.se/arbetsmiljoarbete-och-inspektioner/publikationer/foreskrifter/>.
- Gunnar Wetterberg: Ingenjörerna. Albert Bonniers förlag, 2021, ISBN: 978-91-00-19424-6.
- Sven Ove Hansson: Teknik och etik. KTH Stockholm.
- Literature about the question the intern has chosen to focus on: individual literature search.
- Literature about the weekly reflections with optional theme: individual literature search.

## Contact and other information

**Course coordinator:** Kontaktadress, [ingpraktik@lth.lu.se](mailto:ingpraktik@lth.lu.se)

**Further information:** Students apply using a specific form during the same period that they apply for other programme courses at LTH for the next study period. Late applications are not considered. The examiner and the supervisor at LTH approve the internship (the host organisation, the supervisor at the host organisation, the internship assignment and the chosen question to be investigated). The supervisor at LTH is the teaching staff member who assesses the course module Internship (internship assignment) and part of the module Theory (internship report, written account of the question the intern has chosen to focus on, weekly reflections with optional theme, oral seminar and peer assessments). The supervisors at LTH and at the host organisation are trained engineers or have equivalent expertise. They are to allocate the necessary time to support the student's internship. The course is offered full-time during the spring and autumn semesters with fixed start dates and is equivalent to 10 weeks of full-time studies, of which the internship is to be 8 weeks full-time i.e. 40 days of full-time work. Teaching takes place at the selected host organisation and in project form. During the internship, the student is to follow the terms and conditions that apply at the host organisation and undertake delineated tasks. The student follows normal working hours at the host organisation as agreed. LTH covers no costs e.g. for travel and accommodation. The right to supervision applies only to the semester in which the student is admitted to the course. The number of examinations and re-examinations is limited to two. In the case of absence and other unforeseen incidents at the host organisation during the internship period,

the examiner is to be notified. The examiner decides if the period of absence is reasonable in proportion to the length of the course and if it is possible for the student to complete the course under the new circumstances.