JÖNKÖPING UNIVERSITY
School of Engineering

COURSE SYLLABUS

Industrial Placement Course - Research Track, 15 credits

Näringslivsförlagd kurs - Forskningsspår, 15 högskolepoäng

Course Code:	TNSS25	Education Cycle:	Second-cycle level
Confirmed:	Feb 01, 2025	Disciplinary domain:	Technology
Valid From:	Aug 31, 2026	Subject group:	Materials Technology
		Specialised in:	A1F Second cycle, has second-cycle course/s as entry requirements
		Main field of study:	Product Development

Intended Learning Outcomes (ILO)

On completion of the course the student shall:

Knowledge and understanding

- display knowledge of methodologies applicable to materials and manufacturing
- demonstrate comprehension of how the task is part of a product development process
- demonstrate comprehension of current research and development work in Materials and manufacturing

Skills and abilities

- demonstrate skills of engineering methods and approaches when planning and conducting project tasks or a study within predetermined time frames
- demonstrate the ability to apply the knowledge acquired through their education in professional work
- demonstrate the ability to describe, analyze and reflect on the results of their work experience associated with materials and manufacturing
- demonstrate the ability to report clearly and discuss conclusions and the knowledge and arguments on which they are based in speech and writing

Judgment and approach

- demonstrate the ability to, based on experience with academia, reflect on their need for knowledge and skills in professional practice
- demonstrate an understanding of their future professional role in academia or industry and the responsibility for sustainability that comes with it
- demonstrate an understanding of the role social, environmental and economic sustainability plays in an industrial setting and demonstrate awareness of the interplay between efficiency requirements and need for renewal in this setting
- demonstrate an understanding of the complexity of collecting data in an industrial setting

Content

This course is preparatory for a future research career and prepares the student for the thesis work. Its purpose is to give the student knowledge of how to independently work with research in co-production within an academic research project. The student will gain experience in how to design and execute a research study. Specific emphasis is on developing data analysis skills.
Assignments within the course are dependent on the purpose of the individual research project that the student joins, the conditions at the industrial placement(s) and the student's own interests. It includes joining and contributing knowledge to an ongoing project.

The course includes the following elements:

- Project planning
- Literature review
- Experiments/or numerical analysis
- Data analysis
- Report writing

Type of instruction

The students work hands-on and individually but in close collaboration with other members of the research project. The research projects are industry-related in the field of materials and manufacturing.

Language of instruction is in English.

Entry requirements

Passed courses of at least 210 credits in the program Industrial Product Realisation, or passed courses of at least 90 credits in Materials and Manufacturing, Materials Engineering, Mechanical Engineering, Chemical Engineering, Product Development, Engineering Physics or the equivalent. The bachelor's degree should comprise a minimum of 15 credits in Mathematics. Taken courses in Liquid Metal and Solidification Processing, 7,5 credits, and Metallic Materials: from Phase Transformation to Characterization, 7,5 credits, or the equivalent. Proof of English proficiency is required.

Examination and grades

The course is graded Pass (G) or Fail (U).

The final grade will only be issued after satisfactory completion of all assessments.

Registration of examination:

Name of the Test	Value	Grading
Assignment	12 credits	G/U
Presentation	3 credits	G/U

Course literature

Please note that changes may be made to the reading list up until eight weeks before the start of the course.