KURSPLAN

Forskningsmetodik i produktframtagning, 7,5 högskolepoäng

Research Methodology in Product Realisation, 7.5 credits

Kurskod:	TFPR22	**Utbildningsnivå:**	Avancerad nivå
Fastställd av:	VD 2022-03-01	**Utbildningsområde:**	Tekniska området (75%) och samhällsvetenskapliga området (25%)
Gäller fr.o.m.:	2022-08-01	**Ämnesgrupp:**	MT1
Version:	1	**Fördjupning:**	A1N
		Huvudområde:	Produktionssystem, Produktutveckling

Lärandemål

After a successful course, the student shall:

Kunskap och förståelse

- demonstrate knowledge of research approaches and research methods in the field of product realisation
- demonstrate knowledge of different techniquies for data collection and data analysis

Färdighet och förmåga

- demonstrate the ability to formulate research questions, plan with appropriate research methods and techniques, and conduct scientific studies
- demonstrate skills in techniques for data analysis and deriving valid conclusions
- demonstrate skills in evaluating sources of information
- demostrate the ability to carry out and present, in writing and orally, assigned tasks

Värderingsförmåga och förhållningssätt

- demonstrate the ability to judge the appropriateness of research methods and techniques for data collection in different situations
- demonstrate an awareness of ethical aspects during research
- demonstrate insight into the possibilities and limitations of research, its role in society and the responsibility for its use

Innehåll

The course gives an insight in the foundations of science as well as covers various research approaches. Terms and concepts from scientific research are taught in the course. Students are trained to systematically collect, treat, analyse, and present different types of data required for research and inquiry projects, and to critically review the result of such work. The structure of academic reproting in theses, papers and dissertations is covered in the course. The course is preparatory for conducting the thesis work and for the authoring the thesis.

The course includes the following elements:
- Research ethics
- Philosophy of science
- Research methods
- Techniques for data collection and analysis
- Scientific quality criteria
- Academic writing and reference management
- Critical review of scientific work
- Understanding results in science

Undervisningsformer

Lectures, seminars, assignments.

Undervisningen bedrivs på engelska.

Förkunskapskrav

Passed courses 180 credits in first cycle, at least 90 credits within the major subject in Mechanical Engineering, Industrial Engineering and Management or Civil Engineering, and 15 credits in Mathematics or passed courses at least 180 credits from the programme Industrial Product Realisation. Proof of English proficiency is required.

Examination och betyg

Kursen bedöms med betygen 5, 4, 3 eller Underkänd.

Poängregistrering av examinationen för kursen sker enligt följande system:

Examinationsmoment	Omfattning	Betyg
Tentamen[I]	4 hp	5/4/3/U
Inlämningsuppgifter	3,5 hp	U/G

[I] Bestämmer kursens slutbetyg vilket utfärdas först när samtliga moment godkänts.

Kurslitteratur

The literature list for the course will be provided 8 weeks before the course starts.

Title: Research methodology - for engineers and other problem-solvers (also available in Swedish)
Authors: Kristina Säfsten, Maria Gustavsson (2020)
Publisher: Studentlitteratur AB
ISBN: 9789144122304