



KURSPLAN

Förändringsbara och rekonfigurerbara produktionssystem, 5 högskolepoäng

Changeable and Reconfigurable Production Systems, 5 credits

Kurskod:	TFBR20	Utbildningsnivå:	Avancerad nivå
Fastställd av:	VD 2019-09-09	Utbildningsområde:	Tekniska området
Reviderad av:	Utbildningschef 2020-11-04	Ämnesgrupp:	MT1
Gäller fr.o.m.:	2020-01-01	Fördjupning:	A1N
Version:	2	Huvudområde:	Produktionssystem

Lärandemål

After a successful course, the student shall

Kunskap och förståelse

- display knowledge of changeable, reconfigurable, and flexible manufacturing concepts
- display knowledge of co-development of products and production systems
- display knowledge of methods and tools to support design for changeability

Färdighet och förmåga

- demonstrate the ability to conduct development for changeable production solutions

Värderingsförmåga och förhållningssätt

- demonstrate the ability to assess current state of implementation and readiness of changeable production systems
- demonstrate the ability to identify need for changeability and reconfigurability

Innehåll

The course covers development of changeable and reconfigurable manufacturing, in order to enable efficient production of high variety/customization of products, rapid introduction of new products, as well as variations in product volumes.

The course includes the following elements:

- Introduction to changeable, reconfigurable, and flexible manufacturing concepts
- Fundamentals of changeability and reconfigurability
- Product and production platforms and co-development
- Changeable production system design and development
- Economic evaluations of changeability concepts
- Virtual support for designing changeable and reconfigurable concepts
- Assessment of readiness and current level of implementation of changeability
- Joint configuration of products and production

Undervisningsformer

Lectures, seminars, and exercises.

Undervisningen bedrivs på engelska.

Förkunskapskrav

The applicant must hold the minimum of a bachelor's degree (ie. the equivalent of 180 ECTS credits at an accredited university) with at least 90 credits in Mechanical Engineering, Industrial Engineering and Management or Civil Engineering or equivalent, and 15 credits Mathematics. English Language requirements corresponding to English 6 in the Swedish upper secondary school (or the equivalent). The applicant must also have 1 year of qualified work experience. It is possible to apply for exemption from a bachelor's degree and 15 credits Mathematics if the applicant has at least 5 years of qualified work experience.

Examination och betyg

Kursen bedöms med betygen Underkänd eller Godkänd.

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

Poängregistrering av examinationen för kursen sker enligt följande system:

Examinationsmoment	Omfattning	Betyg
Övningsuppgift	2,5 hp	U/G
Seminarium	2,5 hp	U/G

Kurslitteratur

The literature list for the course will be provided one month before the course starts.

Scientific articles/extracts from books will be handed out during the course.