KURSPLAN
Parametric Design, 7,5 högskolepoäng

Parametric Design, 7.5 credits

Kurskod:	TPDR23	**Utbildningsnivå:**	Avancerad nivå
Fastställd av:	VD 2022-03-01	**Utbildningsområde:**	Tekniska området
Reviderad av:	Utbildningschef 2023-10-25	**Ämnesgrupp:**	BY1
Gäller fr.o.m.:	2025-01-01	**Fördjupning:**	A1N
Version:	3	**Huvudområde:**	Bebyggd miljö

Lärandemål

After a successful course, the student shall

Kunskap och förståelse
- display knowledge of concepts and methods used when automatizing engineering design
- display knowledge of product development methods and computer-based tools for product modelling and integration of product related information
- display knowledge of product evaluation and testing

Färdighet och förmåga
- demonstrate the ability to manipulate parameters and rules
- demonstrate the ability to structure design tasks and design knowledge
- demonstrate the ability to recognize and manipulate parameters that influence the design process and results

Värderingsförmåga och förhållningssätt
- demonstrate the ability to analyze a real design process to plan computer support and automation
- demonstrate the ability to describe the various factors that affect the interaction between product development and production

Innehåll

The course will give knowledge of Parametric Design for automatized engineering and design tasks and comprehension of digital tools, and the digital information managed along the process. The aim is to enhances a more efficient and productive process in terms of time and quality.

The course includes the following elements:
- Representation of knowledge and reasoning (Configuration, Parametric design, Generative systems)
- Basic programming commands
- Functions
- Object oriented programming

- Design process
- Computer and visual programming

Undervisningsformer

Instruction consists in lectures and laboratory work.

Undervisningen bedrivs på engelska.

Förkunskapskrav

The applicant must hold the minimum of a bachelor's degree (i.e., the equivalent of 180 ECTS credits at an accredited university) with at least 90 credits in Construction Engineering, Civil Engineering, Built Environment, Architecture Engineering, Product Development (with relevant courses in lighting design) or equivalent. The bachelor's degree should comprise a minimum of 15 credits in mathematics and 7,5 credits in BIM or CAD 3D, or equivalent. 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
Inlämningsuppgifter/projektarbete	7,5 hp	5/4/3/U

Kurslitteratur

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

Course literature, including scientific papers, will be handed to the students during the course.