COURSE SYLLABUS
Parametric Design, 7.5 credits

Parametric Design, 7,5 högskolepoäng

Course Code:	TPDR23	**Education Cycle:**	Second-cycle level
Confirmed by:	Dean Mar 1, 2022	**Disciplinary domain:**	Technology
Revised by:	Director of Education Oct 24, 2022	**Subject group:**	BY1
Valid From:	Jan 1, 2023	**Specialised in:**	A1N
Version:	2	**Main field of study:**	Built Environment

Intended Learning Outcomes (ILO)

After a successful course, the student shall

Knowledge and understanding
- 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

Skills and abilities
- 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

Judgement and approach
- 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

Contents

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

Type of instruction

Instruction consists in lectures and laboratory work.

The teaching is conducted in English.

Prerequisites

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, architecture engineering, 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 and grades

The course is graded 5,4,3 or Fail.

Registration of examination:

Name of the Test	Value	Grading
Assignments/Project work	7.5 credits	5/4/3/U

Course literature

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.