

Challenge-Based Learning in Design Computing

Subject area: Civil Engineering/Architecture

University:	CTU
Level:	MA all years
Teaching mode:	hybrid: some students participate online, other students attend real-life
Instructor(s):	Prof.dr.ir. Henri Achten

Short description

In this course, contemporary architecture is examined in terms of computer aided design methods. It shows how the relationship between architecture, theory, materials and computer design has changed over past decades.

Full description

The principles of parametric design, performative design and generative design are presented and discussed in more depth using specific key examples from contemporary architecture. The course pedagogy is Challenge-Based Learning. Students will go through three phases (Engage, Investigate, and Act) to identify and apply design computing principles on a concept generation.

Learning outcomes

- Knowledge of major design computational techniques in architectural design (parametric design, performative design, rapid prototyping, BIM).
- Design methods that integrate such technologies in architectural design process.
- Process management in multidisciplinary teams using such technologies.
- Skills to foster a research-based approach in design.

General information

Contact hours per week:	4h/week
Total workload:	70 (in student hours for the whole course)
ECTS credits:	2 ECTS
Language:	English

Course start date: 20 February 2023
Course end date: 28 May 2023
Add. info about start date: Start date course refers to start of the semester at CTU. Time schedule is available 1-2 weeks before the semester starts.
Weekly teaching day/time:
Time zone: CET (Denmark, Germany, France, Netherlands, Switzerland, Czech Republic)
Further information:

Prerequisites: There are no pre-requirements for taking part in the course. The course is open not only for architecture students, but also for students of civil engineering and product design who have an interest in multi-disciplinary design concerning architecture.

Activities and methods: Lectures, Self-study, The learning activities alternate between frontal lectures and consultation in one week, followed by more workshop-like approach and self-study in the next week.

Presence on campus:

Final examination

Form: Written report
Date:
Location/format:
Re-sit possibility: yes
Transcript available: end of semester
Add. info/requirements:

Registration

To register for this course, follow the registration requirements of your **home university** as specified here: www.euroteq.eu/courses-registration.

Administration

Number of places: 15
Minimum participants:
Internal course code: 516PN2

Contact: achten@fa.cvut.cz

This course is part of the EuroTeQ Engineering University joint course catalogue 2023. This is a collaborative activity of the partner universities DTU, L'X, TU/e, TalTech, CTU, TUM as well as Technion. Students from these universities can participate in the offered courses. It is the responsibility of the student to check if you fulfil the requirements to participate in a specific course. Students are also advised to check with their home institution how to get recognition of the ECTS credits gained in courses of the EuroTeQ course catalogue. For further information about EuroTeQ Engineering University, visit www.euroteq.eu or get in touch with the above-mentioned point of contact.