

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



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