

AR-508

UE L : Digital design and making: New approaches

Parascho Stefana

Cursus	Sem.	Type
Architecture	MA2, MA4	Opt.
Mob. AR	E	Opt.

Language of teaching	English
Credits	4
Withdrawal Session	Unauthorized Summer
Semester Exam	Spring During the semester
Workload	120h
Weeks	12
Hours	4 weekly
Lecture	3 weekly
Exercises	1 weekly
Number of positions	

Remark

(Pas donné en 2023-24) - Inscription faite par la section

Summary

The UE focuses on the project-based exploration of digital design and construction processes. In particular, students will propose and physically implement robotic processes and analyse their relationship to design and construction through both technical knowledge transfer and critical reflection.

Content**Keywords**

digital design, digital fabrication, robotics, robotic construction

Learning Prerequisites**Required courses**

none

Recommended courses

AR-503 is helpful, however it is not a requirement. Students with no prior knowledge of robotics or programming are very welcome.

Important concepts to start the course

General concepts of programming and robotics are helpful, but not a requirement. Students with no prior knowledge are welcome to join the course.

Learning Outcomes

By the end of the course, the student must be able to:

- Describe a given digital fabrication process
- Propose their own digital design and fabrication process
- Discuss the relevance and impact of digital process

- Develop a digital fabrication process that they regard as meaningful
- Implement their own chosen digital construction process

Teaching methods

Tutorials / workshops
Discussions / Presentations

Expected student activities

Development of projects involving physical prototyping and demonstration of robotic processes
Critical discussions on the covered topics
In-class presentations of project development and background research

Assessment methods

Students will be evaluated through the development of projects (individual and in groups). As part of the project assessment there will be technical assignments as well as short writing submissions and presentations during class. In addition, participation in class will be considered, as well as a final paper synthesising the developed projects by proposing a research statement and describing the implementation throughout the projects.

The evaluation distribution is as follows:

- Class assignments: 30%
- Project and documentation: 50%
- Class participation: 20%

Supervision

Office hours	Yes
Assistants	Yes
Forum	Yes

Resources

Moodle Link

- <https://go.epfl.ch/AR-508>