

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
<b>Hours</b>	<b>4 weekly</b>
Lecture	3 weekly
Exercises	1 weekly

**Number of positions**

**Il n'est pas autorisé de se retirer de cette matière après le délai d'inscription.**

**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 synthesizing 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>