



Course Syllabus

Course Code	Course Title	ECTS Credits
ARCH-593DL	Special Topics in Computation	10
Prerequisites	Department	Semester
None	Architecture	Fall
Type of Course	Field	Language of Instruction
Elective	Design + Computation	English
Level of Course	Lecturer(s)	Year of Study
2 nd Cycle	Eftihis Efthimiou	2 nd
Mode of Delivery	Work Placement	Co-requisites
Distance Learning	N/A	None

Objectives of the Course:

The main objectives of the course are to:

- To integrate the interdisciplinary expertise from cutting edge researchers in industry as well as from other academic institutions and universities
- To develop a deeper understanding and knowledge of Special Topics in Computational Design and Digital Fabrication. This knowledge is based in current contemporary issues as well and is enriched by a grounding in theory and history
- To develop the skills needed to use cutting edge tools and technologies in the field
- To ensure students become practitioners, critical thinkers, develop their research, written and verbal skills, as well as develop the skills needed to work in the industry
- To cultivate dialogue and investigate current questions in Special Topics in Computational Design and Digital Fabrication
- To introduce students to new approaches of the study and products, techniques and technologies being developed in the industry
- To allow students to investigate a topic in a thorough and academically and professional based mature manner
- Help students develop research skills including locating and evaluating sources, selecting evidence, making an argument, presenting, and revising
- Help students understand the community of practitioners and academics in the field
- To introduce students to a variety of viewpoints and areas of expertise within the field

Learning Outcomes:

After completion of the course students are expected to be able to:

1. Develop a deep knowledge based in applications of current cutting edge technologies and advancements
2. To frame an argument and find quality materials to examine the questions posed by the teacher and use them to formulate well supported responses
3. To express their own viewpoint about contemporary sustainable architecture and integrative technologies
4. Extract and apply information from case studies, utilizing both historical and contemporary references in analysis and design of sustainable integrative technologies
5. Analyze, describe and critically comment on Computational Design and Digital Fabrication
6. Apply professional skills analyzing and synthesizing research and data
7. Identify problems and chances for future development within the area of Computational Design and Digital Fabrication

Course Contents:

1. The classes are presented in a flexible format to introduce research and new technology development and to foster the collaboration with industrial and academic partners
2. The specific schedule, contents and collaborating institutions will vary from year to year and will be announced and defined according to specific studio topics during the corresponding academic year
3. The content varies depending on the different Special topics introduced by the faculty or specialized 'visiting' local or international specialists.

Learning Activities and Teaching Methods:

- The open format of this course includes invited guest speakers who will give lectures offering insight into their professional and academic work and research as well as give their input to the ongoing Thesis or Project
- Students will conduct original research and produce original projects
- Specialized projects and assignments set by specialist
- Lectures
- Assigned readings
- Weekly presentations
- Case studies analysis and presentation
- Discussions with student participation
- PowerPoint and articulate presentations, self-analysis, self-assessment, individual support and feedback, tutorials, case studies, case study analysis, forums, and chats

Assessment Methods:

The lecture course is assessed by the submission of coursework (assignments):

- Formative assessment, assignments, individual research, presentations, feedback, discussions, final examination
- Coursework (Problem analysis, Research, Project development, Presentation techniques and abilities, Mid-Term project and/or research)
- Final Exam - project and/or research

Required Textbooks / Reading:

Varies per class and topic

Recommended Textbooks / Reading:

Varies per class and topic