DFS_Q2 | Digital Fabrication Studio Q2.

Teaching team: David Erkan in collaboration with tutors from the Faculty of Architecture and other fields.

Semester 02_2020

Course language: English/ French

Semester 02_2020 subject: « From science-fiction to science facts: Exploring emerging technologies. »

DIGITAL FABRICATION STUDIO Q2 is an immersive, cross-disciplinary, technology, research and process driven, architecture studio.

DFS_Q2 is concerned with the increasing convergence and interaction between creative disciplines, engineering, digital fabrication processes and emerging technologies.

DFS_Q2 will question the fabric of things from the nanoscopic to the macroscopic level, with the objective to reveal the architecture of things.

DFS_Q2 relies on the principles of collective intelligence, reciprocity and collaborative processes.

DFS_Q2 functions as a thinking and production environment where students are expected to produce as much as possible work in real time, during the sessions.

The Studio will be operating as a media and technology, production and think-tank.

- Student will submit and develop their own subject throughout the semester.
- Students will be requested to present, discuss and document their work at every session.
- Students will be working individually during the whole semester.
- Students will be requested to document their work on a regular basis, with photos, videos, writing, drawing, detailing, context integration…

Each student will produce a portfolio of drawings, a research paper and a design book in the form of a publication to be submitted at the end of the semester.

DFS Q2 operates on the principles of reverse and context engineering.

Students will explore the concepts of DOING – UNDOING – REDOING

The Studio objectives:

- Immersing students within a digital production environment.
- Challenging the notion of authorship with principles of self-organization and emerging collaborative patterns.
- Bringing attention on the multidisciplinary character of architecture as a practice;
- Fomenting fast and creative exchange of ideas into built forms and highlighting the potential of innovation as an anti-ordinary approach to projects and practices.
- Learning to manage the resources involved into digital fabrication and the production of 1:1 scale prototype.
• Learning to theorize and to develop a methodology based on research by production.
• Learning to develop business models.
• Learning the process of documenting, editing and publishing a portfolio and a research book.

DFS_Q2 will be closely working with the Faculty of Architecture Digital Architecture Laboratory / LAD, and other partnering research facilities within the University and the private sector.

This year’s course will embark students on a 20 week course throughout which they will be researching a subject of their choice within the list below.

The studio will be focussing on a series of research subjects and live projects selected and conducted individually by each student. Details of the program will be presented during the studio.

Students will be:

• Exploring subjects
• Researching, understanding and theorising
• Confronting & criticising ideas and concepts
• Designing, drawing, rationalizing, refining, detailing.
• Producing 1:1 scale fabrication & prototyping
• Documenting, drawing, writing & publishing
• Curating & exhibiting

Research subjects are free but should include digital fabrication processes.

Topics may include:

• Architecture, Design & Engineering;
• Rapid prototyping and digital fabrication
• Materials research & recycling
• Electronics and robotics;
• Computing, Coding & Software development (Coding, BIM, CAD, CAE, CAM);
• Artificial Intelligence;
• Biomimetics;
• Permaculture;
• Smart and Nano technologies;
• IOT;
• Virtual reality/ Augmented reality & Mixed reality;
• Video games and gamification;
Guest speakers & critics will include:
A number of guest critics among others will be involved into the studio throughout the semester.

- Architects, Engineers and designers.
- Scientists
- Academics, Tutors & Researchers.
- Fabers & Makers
- Professionals;
- Industrial experts & specialists.
- Stake holders.

**Field Trip:** A Studio field trip to London will be organised at the end of the semester. Participation is highly recommended but not mandatory.

**Fees:** Access & use of the Digital Architecture Lab facilities is subject to a fee of 25€ / student for the semester.

The studio final reviews will be held at the end of the semester at the Digital Architecture Lab.

**DFS Q2 mind map.**
DFS COLLABORATIONS.

Faculty of Architecture staff and tutors:

- Anne-Sophie Daout (Bibliothèque et séminaire de méthodologie)
- Denis Derycke (AIM / ALice)
- David Lobouglio (AIM / ALice)
- Salvatore-John Liotta (Structure)
- Gregorio Carboni Maestri (théorie/ histoire)
- Researchers.

Academic institutions collaborations:

- Alice Lab, ULB, Brussels.
- AE Department, VUB, Brussels.
- Medialab, Erasmus Hoge School, Brussels.
- Haute Ecole Francisco Ferrer, Bruxelles.
- Bartlett School of Architecture, UCL, London. UK.
- Architectural Association_London. UK.
- Ravensbourne College of Design, London, UK.
- IAAC_Barcelona.

Digital Fabrication collaborations:

- FabLab Imal Brussels.
- SuperLab, Brussels.
- FabLab Brussels, VUB, Brussels.
- FabLab ULB, Brussels.
- Collaborativa, Cordoba.
- FabLab Limerick, Ireland.
- FabLab Rotterdam.
- FabLab Benelux.

Studio Photograph.