

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.

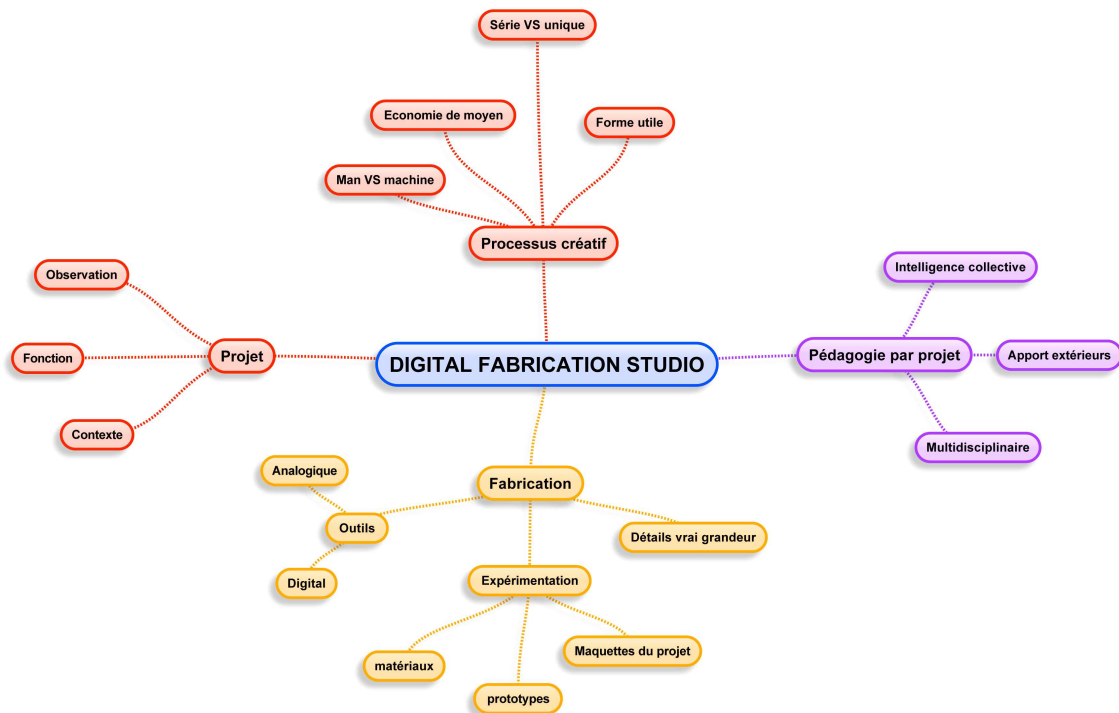
- Architects, Engineers and designers.
- Scientists
- Academics, Tutors & Researchers.
- Fabers & Makers
- Professionals;
- Industrial experts & specialists.
- Stake holders.

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.

