**Digital Fabrication Studio.**

*Teaching team: David Erkan & Victor Lévy*

*Semester 02_2018*

*Course language: English/ French*

*Semester 02_2018 subject: « From science-fiction to science facts: Exploring future realities. »*

**DIGITAL FABRICATION STUDIO** is an immersive cross-disciplinary, technology, research and process orientated, architecture studio.  
**DFS** is concerned with the increasing convergence and interaction between creative disciplines, engineering, and emerging technologies.  
**DFS** will be questioning the fabric of things from the nanoscopic to the macroscopic level, with the objective to reveal the architecture of things.  

**DFS** relies on the principles of collective intelligence and collaborative processes.  
**DFS** will function as a Workshop, and a production environment; students are therefore expected to produce as much as possible work in real time, during the sessions.  

The Studio will be operating as a media and technology 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, through photos, videos, writing, drawing, detailing, context integration…  
Each student will produce a resource book in the form of a publication to be presented at the end of the semester.  
**DFS** 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 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 producing 1:1 scale prototypes.  
- 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 research book.  

**DFS** will be closely working with the FabLab, and other partnering research facilities within University and the private sector.
This year’s course will embark students on a 20-week workshop throughout which they will be researching a subject of their choice within the list further below.

This year studio will also be conducting a series of live project with teams of 2-4 students to be selected within the studio. Details of the program will be presented during the studio.

Students will be:

- EXPLORING SUBJECTS
- RESEARCHING & UNDERSTANDING
- 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
- Materials research & recycling
- Electronics and Robotics;
- Artificial Intelligence & Biomimetics;
- Permaculture;
- Smart and Nano technologies;
- Computing & Software (Coding, BIM, CAD, CAE, CAM);
- IOT
- Virtual reality
- Video game design

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: Physicists
- 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 & usage to the FabLab facilities is subject to fees. The studio final reviews will be held at the end of the end of the semester at FabLab ULB.
DFS mind map.

Academic partners:
Bartlett School of Architecture_UCL_London. UK.
Architectural Association_London. UK.
Ravensbourne College of Design, London, UK.
IAAC_Barcelona
EPFL_Lausanne.
ETH Zurich.
VUB-AE Department Brussels.

Digital Fabrication partners:
Imal_Brussels.
Relab_Liège.
FabLab Andennes.
FabLab Charleroi et Bubble Hub.
Opendesk, London, UK.
Hacker Space Urlab, ULB, Brussels.
Labo Alice, ULB, Brussels.
Collaborativa, Cordoba.
FabLab Benelux.
FabLab Amsterdam.

Institutional Partners:
Recyka
Bruxelles Formation
Bruxelles Environnement
Ecolo

Studio Photograph.