DIGITAL FABRICATION STUDIO Q2

SEMESTER 02_2019

FROM SCIENCE FICTION TO SCIENCE FACTS:
EXPLORING FUTURE REALITIES

DFS SEMESTER 02 2018-2019
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UNIT COORDINATOR: DAVID ERKAN
WHAT IS IT ABOUT?
DIGITAL FABRICATION STUDIO Q2
is an immersive cross-disciplinary, technology, research and process orientated, architecture studio.
DFS Q2 is concerned with the increasing convergence and interaction between architecture, creative disciplines, engineering, and emerging technologies.
DFS Q2 will be questioning the fabric of things from the nanoscopic to the macroscopic level, with the objective to reveal the architecture of things.
HOW ?
DFS Q2 approach relies on the following principles:

- Collaborative processes.
- Collective intelligence.
- Reciprocity.
- Active classes.
- Spiral learning.
DFS Q2 operates as a Workshop, and a production environment. Students are therefore expected to produce as much as possible in real time, during the sessions.

- The studio will be operating as a media and technology, action and thinktank.
- Students will present and discuss their work at every session.
- Students will be working individually throughout the whole semester.
- Student will document and publish their work on a regular basis, through writings, drawings, photos, videos...
- Each student will publish a research and a design book to be presented at the end of the semester.
This year Studio will therefore focus on:

- Immersing students within a production environment.
- Challenging the notion of authorship with principles of self-organisation and emerging collaborative patterns.
- Bringing attention on the multidisciplinary aspect of architecture 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 practice.
- Learning to manage resources involved into producing 1:1 scale prototypes.
- Learning to theorize and to develop a methodology based on research by production.
- Learning to document, edit and publish a research and a design book.
DFS Q2 will be closely working with the Faculty Digital Research Lab and other partnering research facilities within University and the private sector.
DFS Q2 will be operating on the following principles:

**DOING – UNDOING – REDOING**
These principles imply the following attitude:

- Exploring subjects
- Researching & understanding
- Confronting & (auto) criticising ideas and concepts
- Designing, drawing, rationalizing, refining, detailing.
- Producing 1:1 scale fabrication & prototyping
- Documenting, drawing, writing & publishing
- Curating & exhibiting
WHAT?
Research subjects should include digital fabrication processes.

Topics should include:

• Architecture, Design and Engineering.
• Material research and recycling.
• Artificial Intelligence and Biomimetics
• Smart and nano technologies
• Electronics and Robotics
• Computation and coding
• VR / AR / MR
• BIM, CAD, CAE, CAM
• Rapid prototyping…
Course material will comprise:

- Books and articles,
- Lectures, videos and documentaries,
- Case studies and visits,
- Seminars and tutorials…

N.B: A detailed presentation and a full description of the course content and material (bibliography, lectures, templates, tutorial…) will be distributed to students during the course initial sessions.
COLLABORATIONS
DFS COLLABORATIONS.

Faculty of Architecture tutors:

- Denis Derycke (AIM / ALice)
- David Lobouglio (AIM / ALice)
- Salvatore-John Liotta (Structure)
- Gregorio Carboni Maestri (théorie/ histoire)
- Thomas Vilquin (structure)
- Researchers.
Academic institutions collaborations:

- Labo Alice, ULB, Brussels.
- VUB-AE Department Brussels.
- Medialab Erasmus Hoge School, Brussels.
- FabLab Brussels, VUB. 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
- ETH Zurich.
Digital Fabrication collaborations:

- FabLab Imal Brussels.
- SuperLab, Brussels.
- Hacker Space Urlab, ULB, Brussels.
- Collaborativa, Cordoba.
- FabLab Limerick, Ireland.
- FabLab Amsterdam.
- FabLab Rotterdam.
- FabLab Benelux.

Institutional collaborations:

- Recyka
- Bruxelles Formation
BOOKS & ARTICLES.

5. http://greg.org/archive/2010/08/28/do_daniel_libeskinds_awesome_machines_mean_i_have_to_stop_hating_his_work
10. https://www.youtube.com/watch?v=Jct5PiBzrhM
VIDEOS & WEB REFERENCES.

18. http://www.ruairiglynn.co.uk/
25. ....

VIDEOS

• https://vimeo.com/channels/9tharchilab
• https://www.youtube.com/watch?v=rSqLmEuUo_U
• https://www.youtube.com/watch?v=XCsgGLWrF4Y
• http://www.gsd.harvard.edu/#/media/innovate-daniel-lopez-perez-and-hanif-kara-r-buckminster-fuller.html
• https://www.youtube.com/watch?v=Jct5PiBzrhM
• ....
Nicholas Negroponte, The Architecture machine.

Nicholas Negroponte, Soft Architecture machines.
Serge Salat
LA RELÈVE DU RÉEL

LES ARTS DU CHAOS
ET DU VIRTUEL

ACADEMIE DES SCIENCES ET DES ARTS
CONCEPTION ET FABRICATION NUMÉRIQUES
ARCHITECTURE ET DESIGN CONTEMPORAIN

FabRica
RUARI GLYNN & BOB SHEIL
Patterns of Architecture

Closing the Gap
Information Models in Contemporary Design Practice

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moulding assembling designing
Ceramics in Architecture

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Guest speakers & critics will include:

- Architects
- Designers
- Engineers
- Scientists
- Makers
- Artists
- Experts & Professionals in various fields
PREVIOUS YEARS WORKS
INTERACTION GENERATOR/
A COMPLEX MIX OF SPACE FOR AN ECOSYSTEM OF ACTIVITIES.

- LIGHT'S HOLE
- SKATEPARK / SOLARIUM
- RESTAURATION
- WINTER TERRACES
- TEMPORARY ATELIERs
- COVERED ROAD'S ARTISTS PLAZA
- COVERED MULTI-EthNICAL MARKET
- FAST STAIRS
- SLOW STAIRS
- ENTRANCE HALL

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DIGITAL FABRICATION WORKFLOW
CAD / CAM / CAE & A_DRL
L'imaginaire, c'est ce qui tend à devenir réel.

(André Breton)

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