DESIGN by DATA

Advanced Master® in Computational Design, Digital Manufacturing, & Building Technologies

Starting next September in Paris

Enter the world of data-driven architecture

Architecture & Research

Art & Culture

F fablab & MakerSpace

Start-up & Design Office

http://designbydata.enpc.fr
The DESIGN by DATA Advanced Master provides attendees with a cross-disciplinary culture of computational design and comprehensive knowledge of cutting-edge technologies in the fields of parametric architecture, robotics, digital manufacturing and 3D printing for the construction industry. The program is designed for a selected group of architects, engineers, designers and digital artists and offering a variety of courses, fabrication and prototyping workshops, conferences, digital talks and networking events. The program takes place in a number of locations in Paris and is a real opportunity to enter an international ecosystem of architectural innovation.

Innovation in a dynamic learning environment

DESIGN by DATA has three main goals:

- providing participants with a solid knowledge of innovative digital cultures and computational tools based on both technical skills and artistic sensibility.
- giving students a broad set of expertise to take advantage of new technologies in manufacturing and digital fabrication (CNC prototyping, 3D printing, industrial fabrication, aerial robotics, etc.).
- encouraging a process-oriented approach to design based on theory of genetic optimisation and the use of environmental data in architecture.

Program syllabus

The program is 12 months long and is an «Executive» Part-time course (one week a month) with the possibility to work full-time in the fablabs and coworking spaces partners of the program. It includes 366 hours of teaching, a thesis and a viva. The professional thesis can address one of the following types of subjects: 1) a business subject (for companies), 2) a entrepreneurship / start-up project or, 3) a research subject.
What you will learn

At the end of the training, graduates will:

• have the know-how to innovate their design workflow using a computational and collaborative approach towards architecture and engineering
• have a complete understanding of tools for digital design and robotic manufacturing
• design, manage and build non-standard objects and complex geometries

Your career prospects

The Advanced Master prepares graduates for a number of high-level positions in architectural design with a strong emphasis on digital innovation, computational robotics and manufacturing.

Graduates of the program may qualify for positions in architectural offices, urban design studios, construction firms specialized in complex geometry, robotics and digital fabrication, graphic design, art studios, consulting innovation firms, 3D printing platforms and software development companies.

Careers

Holders of this Advanced Master will pursue the following careers, from amongst others

• Project Manager
• Computational Designer
• Façade consultant
• Structural engineer expert in complex geometry
• Chief Design Officer
• Interaction Designer
• Robot and Drone Designer

The fee for the Advanced Master includes:

• An access to digital fabrication machines (CNC, lasercut, 3D printers) in the fablabs partners of the program
• A student co-working membership at VOLUMES coworking
Profiles and qualifications required
Candidates must hold a 4/5-year higher education qualification: Bac+5, or Bac+4 with professional experience. A good knowledge of 3D modeling is required.

Admission
Candidates are eligible to enroll in the course after selection of their application by a jury (for more information, please visit: http://designbydata.enpc.fr). Candidates are admitted after an interview that measures the pertinence of the program with their own qualifications and professional project.

Timetable
Applications: January to June.
Course begins: September.
Duration of course: from September to July (one week a month).

Places
20 to 40

Language
The program will be entirely taught through English

Validation
366 h of lectures – Thesis
75 ECTS* (30 ECTS for the thesis, 45 ECTS for the modules) * European Credit Transfer System

Key Players and Partners
Laboratoire Navier (École des Ponts ParisTech), Paris College of Art, and Ecole Nationale Supérieure d’Architecture Paris-Val de Seine. La Gaité Lyrique, VOLUMES coworking, and WoMa fablab. HAL Robotics, HDA: Hugh Dutton Associés and XtreeE.

Stay in the loop
Visit our blog, http://designbydata.org to keep up to date with the program.

Faculty
- Yasmine Abbas (Architect, Doctor of Design, Chair of Design Management at Paris College of Art)
- Olivier Baverel (Architectural Engineer, professor at École des Ponts Paris Tech and at Grenoble Architecture School)
- Justin Direenberger (Engineer, Associate Professor at CNAM)
- Cyril Douthé (Engineer, Associate Professor Ecole des Ponts ParisTech)
- Domenico Di Siena (Urbanist, Co-founder of VOLUMES coworking)
- Alessio Erioli (Engineer and Computational Designer, Co-founder of Co-de-iT and Assistant Professor at University of Bologna)
- Andrea Graziano (Architect and Computational designer, Co-founder of Co-de-iT)
- Minh Man Nguyen (Architect and Engineer, assistant professor at architecture school of Paris Malaquais and co-founder of WAO architecture and WoMa fablab)
- Romain Mesnil (Engineer, PhD student at École des Ponts Paris Tech)
- Sébastien Perrault (Designer, Engineer, Entrepreneur)
- Thibault Schwartz (Architect and President of HAL robotics)
- Aldo Sollazzo (Architect, global summer school Coordinator at IAAC Barcelona and Director of NOUMENA BCN)
- Eric Vernhes (Artist and professor at Paris College of Arts)

Cost
€14,000 for students who pay for the course themselves.
€17,000 for students for whom the course is financed by a company or organisation.
These prices are subject to change

Teaching venues
The program will be taught at the following venues:
École des Ponts ParisTech (Champs-sur-Marne)
La Gaité Lyrique, Paris College of Art, VOLUMES coworking, WoMa fablab

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