DESIGN by DATA

Mastère Spécialisé® - Executive Master in Computational Design and Digital Technologies for Architecture and Construction

accredited by la Conférence des Grandes Écoles

Starting next September in Paris

Enter the world of data-driven architecture

http://designbydata.enpc.fr

CLIMATE RIBBON™ / Brickell City Centre - Hugh Dutton Associates © Erieta Attali

Education & Research

Fablab & MakerSpace

Start-up & Design Office
The DESIGN by DATA Mastère Spécialisé® - Executive 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 makerspace and coworking space of the school. It includes 350 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) an entrepreneurship / start-up project or, 3) a research subject.

**Key Words**

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 course 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 Mastère Spécialisé® - Executive 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 program includes:

- an access to digital fabrication machines (CNC, lasercut, 3D printers) in the school makerspace,
- a student co-working membership at École des Ponts ParisTech.
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 (apply online: 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 per month).

Places
20 to 40.

Language
The program will be entirely taught through English.

Validation
350 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).
VOLUMES coworking, and WoMa fablab.
HDA: Hugh Dutton Associés and XtreeE.

Stay in the loop
Visit our blog on http://designbydata.org to keep up to date with the program.
Follow us on Instagram: @designbydata

Faculty
- Yasmine Abbas (Architect, Doctor of Design, Penn State University)
- Olivier Baverel (Architectural Engineer, Professor at École des Ponts Paris Tech and at Grenoble Architecture School)
- Justin Dirlenberger (Engineer, Associate Professor at CNAM)
- Cyril Douthe (Engineer, Associate Professor at École des Ponts ParisTech)
- 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)
- Sébastien Perrault (Designer, Engineer, Entrepreneur)
- Tristan Gobin (Architect and Co-founder 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 Art)

Cost
€13,000 (net of VAT) for students who pay for the course themselves.
€17,000 (net of VAT) for students for whom the course is financed by a company or organisation.
These prices are subject to change

Teaching venue
The program will be taught at: École des Ponts ParisTech (Champs-sur-Marne).
Some lectures and events may take place in other venues in Paris:
VOLUMES coworking, WoMa fablab.

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