



## ACCREDITATION

The MSc in Advanced Design and Management of Durable Constructions (ADMODC) is accredited by the Ministry of Higher Education, Research and Innovation.

National Accreditation Reference: 20150365-1506010H.

Co-accredited with the University of Lille (U-Lille, Hauts de France).  
In partnership with Institut Mines-Télécom Business School in Evry.

## KEY WORDS

Civil Engineering, Environment, Sustainable Construction, Building Materials, Green Materials, Bio-sourcing, Recycling, Geotechnical Design, BIM, 3D Printing, Smart Home, Repairing, Management, Communication, Entrepreneurship, Project Management, Innovation.

## SCHOOL OFFERING THE MASTER

IMT Lille Douai is a Graduate School of Engineering of Institut Mines-Télécom, the leading group of public Engineering and Management graduate schools in France. IMT Lille Douai has also built a strong partnership with the University of Lille whose research activity is supported by 25 internationally renowned laboratories. IMT Lille Douai trains engineers who will take responsibilities in key sectors of the industry and researchers who will conduct international research in labs around the world.

## LOCATION

IMT Lille Douai is located in the heart of Europe and is composed of 3 main campuses in Lille, the regional capital, and Douai. The MSc students will study in Douai, which is 20 minutes by train. Lille came up as the number one city to live in France, being one of the youngest cities, with more than 100,000 students. From there, you can jump on a train and be in a European hub in a couple of hours.

## STRONG POINTS OF THE SCHOOL

IMT Lille Douai is a major educational player in today's industrial, digital, ecological and energy transformation, offering a wide range of undergraduate, graduate and postgraduate studies.

The international rise of the school is based on 5 strong points:

- > Conducting world-class research;
- > Offering high-level training;
- > Acting as a major stakeholder at the service of territories and companies;
- > Working with an international team committed to increase the reputation of the school worldwide;
- > Being the most digitally-focused engineering school in the region.

## LANGUAGE OF TEACHING

The programme is fully taught in English.

## ENVIRONMENT

Buildings, bridges and roads are constructions that have an impact on their environment and the populations, of all species, who inhabit them. An awareness of these environmental exchanges is essential to bring the necessary ecological, energy, digital and industrial transition.

Besides, the expansion of the circular economy offers new building features with a lower carbon footprint, and therefore involves a reduction in the use of cement. Green materials such as recycled waste are just as efficient materials for construction, costless, and capable of providing clean and eco-friendly solutions.

## COURSE AIMS

The MSc programme gives you knowledge of sustainable construction, from design to maintenance. It combines a strong

expertise in civil engineering (design, sizing, works calculations) with detailed knowledge of the environmental impacts of works. It also trains you in the design and use of innovative materials from the circular economy.

The course teaches a new way of building, based on innovative, bio-sourced, sustainable materials with low environmental impact. You will be at the very heart of innovation in IMT Lille Douai laboratories, in direct contact with researchers. There, you will undertake impact and sustainability assessments on materials and their life cycles.

You will also be introduced to the use of 3d printing in construction, to the concept of the smart home and the mobilisation of data for managing sustainable constructions. In addition, your management and project management skills will be developed during a semester at the IMT Business School, our academic partner.

## PROGRAMME

This is a full-time, two-year course divided into four semesters.

### Semester 1:

- > Binders, Concretes and admixtures,
- > Rheology of building materials
- > New materials and technologies for construction
- > Metal frame
- > Reinforced concrete design – Basics
- > Soil physics, Rheology and Geotechnical design
- > Smart home and BIM
- > Research Initiation Project
- > French as a Foreign Language
- > Construction sites and company visits

### Semester 2:

- > Managerial Finance
- > Business Ethics
- > Intellectual Property
- > Supply Chain and Logistics
- > Sales and Business Development
- > Personal Development
- > Business plan challenge
- > AI and Entrepreneurship
- > French as a foreign language

### Semester 3:

- > Durable constructions
- > Wooden constructions
- > Reinforced concrete design - Advanced
- > Prestressed concrete design and Seismic design
- > Advanced data learning and analysis
- > Scientific and Technical Project
- > Commercial, Logistics and Management Profile
- > French as a Foreign Language
- > Construction sites and company visits

### Semester 4:

During this semester, students will carry out their final-year internship in France or abroad, to apply the theoretical and technical concepts and methods to real construction projects. It can also be a research project in a laboratory.

Upon completion of the four semesters, students defend their Master Thesis.

## ADMISSION REQUIREMENTS

The master's degree is open to candidates with at least a scientific Bachelor's degree in Science, Technology or Engineering and an interest in the academic topics offered by the Master's course.

# ADVANCED DESIGN AND MANAGEMENT OF DURABLE CONSTRUCTIONS

## MASTER OF SCIENCE



### LANGUAGE REQUIREMENTS

#### English

To apply, candidates must have a proof of proficiency in the English language equivalent to a B2 level.

- > Bachelor degree taught in English
- > Official English Language qualification such as:
  - > TOEFL: 550/677 (Paper-based) or 79/120 (Internet-based)
  - > IELTS: 5.5/9
  - > TOEIC: 750/990
  - > Cambridge: CAE (Certificate of Advanced English)

#### French

French language skills are not required to join the course. French lessons are included in the curriculum during the 3 academic semesters, in order to ease your immersion in the local life and offer you the opportunity to reach a position in France for your last-year internship or first job.

### APPLYING

Request your application form by email:

[international-admissions@imt-lille-douai.fr](mailto:international-admissions@imt-lille-douai.fr)

### COMPETENCES ACQUIRED

During this MSc programme, you will acquire hard and soft skills that are required to either occupy a decision-making role within public and private industries, or conduct research in the international community.

- > Acquire knowledge on the technical and socio-economical stakes related to environmentally responsible constructions
- > Develop, understand, and organize the applied research on construction materials.
- > Apply an engineering approach to a durable construction project.
- > Manage, conduct, and/or take part in a major scale construction project.
- > Be acquainted with the new modes and sustainable materials for construction and know how to use them.
- > Make a dimension calculation of the works (sizing, diagnosis) and the modelling of chemico-physical phenomena.
- > Make use of innovative and efficient digital tools/methods for construction.

### TYPICAL JOBS

- > Business Director
- > Director of Design Studies
- > Director of Production
- > Director of Operations
- > Project Director
- > Works Director.

### COST

- > €9,000 per year

### SCHOLARSHIPS

Scholarships from the Governments and various organisations may be available depending on the student's academic records, nationality or place of study. It should be mentioned that internships are paid and cover living expenses during the last semester.

### DURATION

The programme lasts for 2 years. There is only one intake per year in September.

- > **Year 1:** First academic semester in Douai, second semester in Evry at IMT Business School
- > **Year 2:** One academic semester in Douai + 6-month Master thesis in industry or in a research lab.

### LODGING

IMT Lille Douai holds 3 students' residences in Douai for admitted students. Single bedrooms are available in these residences with a common canteen.

In Evry, a large range of accommodation including small apartments, is available in a students' residence called "Maiseil".

Students will have also access to the numerous university restaurants where meals are cheap (€3.25), various and convenient.

### FOLLOW IMT ATLANTIQUE ON SOCIAL NETWORKS

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Instagram [@imtlilledouai](https://www.instagram.com/imtlilledouai)

### SCHOOL CONTACTS

IMT Lille Douai  
Douai Campus  
941 rue Charles Bourseul  
59500 Douai  
FRANCE

[www.imt-lille-douai.fr/en](http://www.imt-lille-douai.fr/en)

[international-admissions@imt-lille-douai](mailto:international-admissions@imt-lille-douai)