



IMT Nord Europe
École Mines-Télécom
IMT-Université de Lille

Master of Science in Advanced Design and Management of Durable Constructions

Master's Degree
in Science

Join a 2-year program after a Bachelor's of Science, Engineering or Technology

Nowadays, one of the first challenge of our society is to reduce the impact of its activities on the environment and therefore support a sustainable development. The construction industry has a major role to play innovating with the use of recyclable and renewable materials in building projects, as well as minimizing energy and waste production.

The MSc in Advanced Design and Management of Durable Constructions enables students to develop their expertise in civil engineering learning new ways of building making use of innovative, efficient, bio-sourced, sustainable materials with a low environmental impact. Waste for example, consisting of base materials forms a free resource, capable of providing clean and sustainable materials.

The courses provided in this master's degree directly respond to industrial issues, and students will be in direct contact with researchers in IMT Nord Europe research centres. The program is project-focused, and thanks to our laboratories they will be offered the technical resources required to experience, on a real-world scale, sustainable development in construction: 3D printing, smart home concept, mobilisation of data for managing durable constructions...

Besides, to become a complete engineer with the ability to manage large-scale projects, one semester in Institut Mines-Télécom Business School is dedicated to the development of management and communication skills as well as the acquisition of knowledge in the fields of business, finance and logistics.

- 100% taught in English
- Douai Lahure Campus
- A 6-month paid internship

- 9,000 Euros per year
- Possible scholarship opportunities



Admission Process

Application Form and Interview

Deadline: June 30th, 2023

master-of-science@imt-nord-europe.fr

Academic Prerequisites

A Bachelor's Degree or an equivalent international degree in Science, Technology or Engineering.

For non-native English speakers, a certificate or other proof of English proficiency equivalent to B2

#IMTtomorrow

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SEMESTER 1	UV Name	Course	Teaching Hours	Course ECTS credits
	Material	Binders, concretes, and admixtures + Rheology of building materials	24	2.5
		Introduction of material science and engineering	4	N/A
		Minerals	12	N/A
		Construction materials and methods	16	2.5
		Soil physics, rheology, and geotechnical design	24	2
	Design and Calculation of Civil Structures	Metal frame design	14	3
		Reinforced concrete design basics	16	3
		Material resistance	12	1
	Structure Modeling and Research Initiation	Smart home and BIM	24	3
Research initiation project 1		40	2.5	
Visits 1		14	1.5	
Construction Technology	New materials and technologies for construction	20	2	
	Research initiation project 2	40	2.5	
	Visits 2	14	1.5	
	Construction industries and processes	12	1	
French	French (FLE)	48	2	
TOTAL S1			334	30
Sport	Sport	28	Optional	

SEMESTER 2	Course	Teaching Hours	Course ECTS credits
	Finance Analytics	15	2
	Digital Intelligence and organization transformation	54	6
	Personal Development and communication skills	18	1
	Business Plan Challenge	30	5
	International business	24	3
	French as a Foreign Language	27	2
	Supply Chain Management Tactics and Operations	15	1
	Global Logistics and Operations	15	1
	Management of Innovation and change	15	2
	Global HR Management	24	3
	Global information and International Marketing	24	3
	International Project		1
	TOTAL S2		261

SEMESTER 4	Course	ECTS credits
	Master thesis	6-month paid internship in industry or laboratory

SEMESTER 3	UV Name	Course	Teaching Hours	Course ECTS credits
	Advanced Design and Data Analysis	Wooden constructions	20	2.5
		Advanced data learning and analysis	20	3
		Scientific and technical project 1	30	1.5
	Advanced Concrete Design and Durability	Reinforced concrete design advanced + Prestressed concrete design + Seismic design	30	3
		Durability of structures	20	2.5
		Scientific and technical project 2	30	1.5
	Commercial, Logistic, and Management Profile	Management: entrepreneurship, intercultural management, environmental responsibility and sustainable development in business, means, tools, related approaches or trade, sale and negotiation in business, case study	80	4.5
		Visits 3	12	1
		Scientific and technical project 3	30	1.5
	Durable Constructions, Diagnosis, and Repairing of Structures	Durable constructions	20	2.5
		Techniques of diagnosis and repairing: methods, auscultations, analysis	20	2
		Visits 4	24	1
Scientific and technical project 4		30	1.5	
French	French (FLE)	48	2	
TOTAL S3			414	30
Sport	Sport	28	Optional	



Why recycling building materials matters?

It reduces the demand for new resources, it cuts the costs related to production and transportation of new materials and it eliminates the need to send waste to landfill sites. More than economic benefits there are also environmental benefits as reuse and recycle processes use fewer resources and produce limited pollution.

2023-2024 expected schedule, subjected to changes.



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