

# APPLIED MECHANICAL ENGINEERING

BIOMECHANICAL, INDUSTRIAL, ELECTRICAL AND MECHANICAL ENGINEERING

## AN ENGLISH-LANGUAGE ACADEMIC PROGRAMME

### AT ENIM

The National Engineering School of Metz is a public university, which, since 1962, has been training qualified engineers in the fields of mechanical, material and industrial engineering, with teaching based on both theoretical and practical approaches.

#### ENIM is an international school :

- Every student spends at least one semester abroad
- More than 100 mobility agreements with universities around the world
- More than 100 internships worldwide

ENIM lecturers and researchers are members of four laboratories recognised for the diversity of their researches ranging from mechanics of materials and the study of production systems, to industrial engineering and the optimisation of complex systems. The laboratories are LEM3, LGIPM, LCOMS and LCFC.

### CONTENTS AND ADMISSION REQUIREMENTS

During one or two semester/s, the students can choose amongst lectures in biomechanics, industrial engineering, energetics, electrical and material sciences. Both semesters are worth up to 30 ECTS each.

This programme is intended for international students with at least 180 ECTS at undergraduate level in Mechanical and Industrial Engineering.

**4000**  
PEOPLE  
WORK AT THE  
TECHNOPÔLE  
CAMPUS

**5000**  
STUDENTS  
ARE LIVING  
IN THE  
TECHNOPÔLE  
CAMPUS

**A SCHOOL IN THE  
HEART OF EUROPE**



**AT THE CROSSROADS  
OF FRANCE, GERMANY,  
BELGIUM AND  
LUXEMBOURG**

- 82 min from Paris by TGV
- 2h55 from Frankfurt by car
- 3h10 from Brussels by car

## FEEDBACKS

**CESAR ALBERTO MADOMINGO ALONSO**  
INTERNATIONAL STUDENT  
ACADEMICAL YEAR 2017-2018

« I learnt a lot in the courses that I probably wouldn't have in my home university. This is probably one of the most important experiences in all my life, I improved as engineer as well as in my personal knowledge. The best was about the social integration with the ENIM students, it was really good. »

**MARTA SZCZETYSKA**  
INTERNATIONAL STUDENT  
ACADEMICAL YEAR 2018-2019

« It was very interesting to participate in lectures in English, I definitely developed my language skills and also deepened my knowledge of mechanics, especially biomechanics. I think I became more persistent and resistant to adversity. Certainly this mobility shaped my character, I became even more resourceful and confident. »

**MARTIN BOILLAT**  
ENIM STUDENT BIOCAD/MASTER BIOMECHANICS  
ACADEMICAL YEAR 2018-2019

« English lectures are a huge advantage for french students seeking international experiences. Working together with international lecturers and students is very attractive regarding cultural and technical exchanges. Open minded, international and technically advanced are keywords of actual engineers. International students come follow this training with us, you will no regret. »



# APPLIED MECHANICAL ENGINEERING

COURSE TITLE	ECTS CREDITS	EDUCATION LEVEL	COURSE CODE
<b>Semester 1</b>			
Anatomy	1,5	Master 2 (2nd year Master)	9WECGM01
Medical imaging and image processing	2	Master 2	9WECGM04
Transverse Project	3,5	Master 2	9WECGM09
Design and manufacturing of personalized devices	2	Master 2	9WECGM13
CAD Project	4	Master 2	9WECGM14
Mechanical behaviour of biological tissues	6	Master 2	9WECGM15
Biomimetics	4	Master 2	9WECGM16
Review of literature for Master's thesis	4	Master 2	9WECGM17
Basics in cell biology, histology and biomaterial science	1,5	Master 2	9WECGM18
Patient-specific FE modeling	6	Master 2	9WECGM19
Human movement analysis	4	Master 2	9WECGM20
Computational Fluid Dynamics	1,5	Master 2	9KML1M21
Electrical energy transport	1,5	Master 2	9KML1M26
How to read automotive electrical wiring diagrams	2	Master 2	9KML1M55
School Project : 240 hours (3rd year of Bachelor and Master levels)	24	-	-
School Project : 120 hours (3rd year of Bachelor and Master levels)	12	-	-
French foreign language (UFR LANSAD) for ERASMUS and Intra-Europeans	3 (44 hours)	-	-
<b>Semester 2</b>			
Thermics	2	"Bachelor 3 (3rd year Bachelor)"	6KEL1M03
Materials and surfaces	2	"Bachelor 3"	6KEL1M10
Project management : tools and technics	0,5	Bachelor 3	6KEL1M14
Energetics	2,5	Master 1 (1st year Master)	8KEL1M04
Technology of internal combustion engines	1,5	Master 1	8KEL1M20
Sustainable development	1	Master 1	8KEL1M29
School Project : 240 hours (3rd year of Bachelor and Master levels)	24	-	-
School Project : 120 hours (3rd year of Bachelor and Master levels)	12	-	-

## School Projects (available for both semesters)

Two types of projects are proposed: either a 120h-project corresponding to 12 ECTS or a 240h-project corresponding to 24 ECTS, each one within the scope of mechanical engineering. The projects can be run in the framework of the academic training or of the current research conducted in ENIM laboratories under the supervision of ENIM lecturers. Collaborating with industrial or public partners is possible. A list of projects is available on demand, with mention of the project title, the supervisor(s), and the pre-requisites. Upon arrival, interested students will have to apply for the project(s), following an interview with the supervisor(s).

## PARTNERSHIP



## CONTACT & REGISTRATION

Registration from February to March,  
and from September to October.

Contact

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