



MA-IREM | M-IREMR | 2024-2025

Master of science in Electromechanical Engineering

Focus Professional

The 2024-2025 programme is subject to change. It is provided for information purposes only.

Programme mnemonic

MA-IREM

> Focus *Professional* : M-IREMR

Exists also in

> Focus *Operations engineering and management* : M-IREMI

Studies level

Master 120 credits

Learning language

english

Schedule

office hours

Studies category / subcategory

Sciences and technics / Sciences and technics

Campus

Other campus and Solbosch

students for work in design and management and, on the other hand, a specialisation in a particular discipline.

A wide-ranging base curriculum opening the door to various options

The technology specialisation offered by the electromechanical engineering department is based on wide-ranging training backed up by various options.

Block 3 of BA and the first half of block 1 of MA constitute a common base, ensuring that students gain a firm understanding of electricity, electronics, automation, fluid mechanics, electrical and thermal machines and their associated calculation methods. These lead to the following MA2 options: aeronautics, mechatronic construction, energy and, last but not least, transportation.

A special case: the "Management and Technology" specialisation Students heading straight for a management career can opt in block 1 of MA for the "Management and Technology" specialisation. This is held jointly with the Solvay Brussels School of Economics and Management (SBS-EM). This Masters course has no particular prerequisites and can be taken whatever the option taken in block 3 of BA.

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Programme objectives

Aeronautics, automation, mechanical engineering and design, vibrations, robotics, electrical motors, renewable energy, transportation, piston engines, CAD, management, logistics, quality, etc. These are all examples showing that the majority of companies, whatever the sector they belong to, have a growing demand for engineers skilled in electrical, mechanical or electromechanical engineering. And this is why this programme has so many different facets. Students opting for the electromechanical engineering specialisation in their third block of the Bachelor course (block 3 of BA) can carry on and take a Master degree in electromechanical engineering, specialising in either management and technology or electro-mechanics. The latter, organised together with the VUB since 2011-2012, is taught in English and is part of the BRUFACE initiative.

Graduates of this programme benefit from a compromise between, on the one hand, important base training preparing

of Economics and Management (SBS-EM). This Masters course has no particular prerequisites and can be taken whatever the option taken in block 3 of BA.

Programme's added value

The projects, end-of-course dissertations, work placements, international exchanges

Looking at the electromechanical engineering specialisation, the block 3 of BA project only accounts for 2 ECTS, thereby hardly encroaching on the wide-ranging base curriculum. This is a CAD project, with either an electrical or mechanical dimension. Block 1 of MA also contains an individual project worth 5 ECTS (with the exception of teamwork-based development cooperation, Eco-Marathon and Robotics Cup projects). Students indicate their preferences, choosing from a large range of subjects with a technological dimension (mechanical, electrical or combined), before the department optimises which students are assigned to which projects. Students can also elect to lead groups of BA1 students, should they want to develop their organisation and leadership capabilities.

In Block 2 of MA, the end-of-course dissertation (worth 20 ECTS) is done in one of the electromechanical departments or in another department providing appropriate subjects, possibly in conjunction with an industrial company or with a Belgian or foreign research centre. The subjects suggested by the departments are closely connected to their research activities, and dissertations are therefore supervised by people full of motivation and wanting to see successful research results. Departments very often suggest subjects where a student will be in contact with a company directly interested in the results.

All Masters programmes in the electromechanical engineering field offer the opportunity of doing a 12-week work placement (11 weeks in the aeronautics sector). Supervised jointly by a company supervisor and a Faculty supervisor, work placements may be linked with the end-of-course dissertation. Work placements are done between the beginning of July and the end of October, with the exception of aeronautics placements which end in mid/late September. Students taking the Management and Technology specialisation choose between a mandatory placement and an international exchange.

As with the Faculty's other Master courses, the electromechanical engineering department allows student to take part in an international exchange programme for a term or a year, either in block 1 or 2 of MA. The one exception here is the Management and Technology specialisation, where the exchange must take place in Block 2 of MA. A further option is to take a twin degree, such as that offered by Sup'Aéro in Toulouse.

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Succeed in your studies

Choose

The information and guidance counsellors at the InfOR-études [<https://www.ulb.be/en/studies-info-desk-1>] service will help you choose your studies throughout the year.

Succeed

Take part in preparatory courses [<https://www.ulb.be/en/studies-info-desk-1>] or get help to succeed [<https://www.ulb.be/en/studies-info-desk-1>], before or during your studies.

Get help

Apply for financial aid, look for accommodation or a student job, get support [<https://www.ulb.be/fr/aides-services-et-accompagnement/aid-services-and-support-1>] for your specific needs.

Job opportunities

The advantages of this programme result from the compromise between, on the one hand, important base skills preparing engineers for work in design and management and, on the other hand, a specialisation in a particular discipline.

Electromechanical engineers will also find wide-ranging career opportunities in engineering companies, industry, public authorities, research and higher education, and in the services sector.

Though there are a large number of openings in companies in the area of process automation, computerised management, electricity, electronics, etc., the majority of companies in other sectors (chemicals, petrochemicals, metallurgy, etc.) also have a growing need for skilled and versatile electromechanical engineers.



Contacts

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 <https://polytech.ulb.be/fr/les-etudes/masters/electromecanique>

Jury President

Johan GYSELINCK

Jury Secretaries

Emanuele GARONE (Professional) and Simon-Pierre GORZA (Professional)



Master of science in Electromechanical Engineering

Focus Professional

Bloc 1 | M-IREMR | MA-IREM

Projects - Block 1

One course chosen from the following

- PROJ-H405
(optional)

[Project in Electromechanical Engineering](#) | Emanuele GARONE (Coordinator), Aurélie Bellemans, Svend Bram, Alain DELCHAMBRE, Johan GYSELINCK, Patrick HENDRICK, Pierre HENNEAUX, Joeri VAN MIERLO and Bram VANDERBORGHT

🕒 5 credits [personal assignments: 150h] 📅 first and second terms 🗨 English
- PROJ-H417
(optional)

[Projet coopération au développement / Development cooperation project](#) | Antoine NONCLERCQ (Coordinator)

🕒 5 credits [project: 150h] 📅 first and second terms 🗨 French

Only on selection : see the Development Unit of the Polytechnic School of Brussels (<http://polytech.ulb.be/en/international/development-cooperation>)
- PROJ-H418
(optional)

[Hands-on learning: project manager \(chef de projet\)](#) | Peter BERKE (Coordinator)

🕒 5 credits [project: 150h] 📅 first and second terms 🗨 French
- PROJ-H420
(optional)

[Eco-marathon project](#) | Patrick HENDRICK (Coordinator) and Johan GYSELINCK

🕒 5 credits [project: 150h] 📅 first and second terms 🗨 English

An option chosen from (the same in bloc 1 and bloc 2) :

- M-IREMR-A [Module Aeronautics](#) > *page*
- M-IREMR-E [Module Energy](#) > *page*
- M-IREMR-M [Module Robotics and Mechatronics - Construction](#) > *page*
- M-IREMR-S [Module Sustainable Transport and Automotive Engineering](#) > *page*

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Bloc 2 | M-IREMR | MA-IREM

Master Thesis - Block 2

MEMO-H502

[Master thesis in Electromechanical Engineering](#) | Patrick HENDRICK (Coordinator), Aurélie Bellemans, Svend Bram, Alain DELCHAMBRE, Emanuele GARONE, Johan GYSELINCK, Pierre HENNEAUX, Joeri VAN MIERLO and Bram VANDERBORGHT

🕒 24 credits [mfe/tfe: 600h] 📅 academic year 🗨 English

An option chosen from (the same in bloc 1 and bloc 2):

M-IREMR-A [Module Aeronautics > page](#)

M-IREMR-E [Module Energy > page](#)

M-IREMR-M [Module Robotics and Mechatronics - Construction > page](#)

M-IREMR-S [Module Sustainable Transport and Automotive Engineering > page](#)

Master of science in Electromechanical Engineering

Options | MA-IREM

Module Aeronautics | M-IREMR-A

Bloc 1

Partially common courses - Block 1

- CNST-H421 (option) **Structural analysis and finite elements** | Peter BERKE (Coordinator) and Lincy Pyl
 5 credits [lecture: 36h, tutorial classes: 24h] 📅 first term 🗣️ English
- MECA-H406 (option) **Composite structures** | Patrick HENDRICK (Coordinator)
 3 credits [lecture: 18h, tutorial classes: 18h] 📅 second term 🗣️ English
- MECA-H411 (option) **Mechanical Vibrations** | Arnaud DERAEMAERKER (Coordinator) and Wout Weijtjens
 5 credits [lecture: 36h, tutorial classes: 24h] 📅 first term 🗣️ English
- MECA-H420 (option) **Piston Engines** | Axel Coussement (Coordinator)
 3 credits [lecture: 26h, practical work: 8h] 📅 first term 🗣️ English

Specific courses

- MECA-H407 (option) **Computational Modelling in Aerospace** | Axel Coussement (Coordinator)
 3 credits [lecture: 30h, tutorial classes: 6h, practical work: 24h] 📅 second term 🗣️ English
- MECA-H421 (option) **Aircraft Structures**
 4 credits [lecture: 24h, tutorial classes: 24h] 📅 second term 🗣️ English
- MECA-H423 (option) **Aerospace Seminars : Sustainability, Space & Drones** | Thierry MAGIN (Coordinator)
 3 credits [lecture: 18h, personal assignments: 18h] 📅 second term 🗣️ English
- MECA-Y402 (option) **Aerodynamics** | Tim De Troyer (Coordinator), Thierry MAGIN and Mark RUNACRES
 5 credits [lecture: 36h, tutorial classes: 24h] 📅 first term 🗣️ English

Common courses - Block 1

- ELEC-H406 (option) **Electrical drives** | Johan GYSELINCK (Coordinator) and Omar HEGAZY
 5 credits [lecture: 24h, practical work: 36h] 📅 second term 🗣️ English
- MATH-H407 (option) **Control system design** | Emanuele GARONE (Coordinator)
 5 credits [lecture: 24h, tutorial classes: 12h, practical work: 24h] 📅 first term 🗣️ English
- MECA-H402 (option) **Turbomachinery** | Patrick HENDRICK (Coordinator)
 5 credits [lecture: 36h, tutorial classes: 20h, practical work: 4h] 📅 second term 🗣️ English
- MECA-H409 (option) **Design methodology** | Alain DELCHAMBRE (Coordinator)
 5 credits [lecture: 24h, tutorial classes: 24h, personal assignments: 12h] 📅 first term 🗣️ English
- MECA-H419 (option) **Data-Driven Engineering** | Alessandro PARENTE (Coordinator), Axel Coussement, Emanuele GARONE, Omar HEGAZY, Alassane Ballé NDIAYE and Mehrdad TERATANI
 4 credits [lecture: 36h, tutorial classes: 12h] 📅 second term 🗣️ English

Bloc 2

Specific courses - Block 2

- MECA-H506 (option) **Aircraft performance and stability** | Axel Coussement (Coordinator)
 4 credits [lecture: 28h, tutorial classes: 24h] 📅 first term 🗣️ English

- MECA-H507 (option) **Aircraft propulsion** | Patrick HENDRICK (Coordinator)
⌚ 5 credits [lecture: 36h, tutorial classes: 24h] 📅 first term 🗨 English
- MECA-H508 (option) **Aircraft conceptual design** | Axel Coussement (Coordinator)
⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 second term 🗨 English
- MECA-H522 (option) **Applied Computational Fluid Dynamics** | Mark RUNACRES (Coordinator) and Aurélie Bellemans
⌚ 3 credits [lecture: 12h, tutorial classes: 12h, personal assignments: 20h] 📅 first term 🗨 English
- MECA-Y408 (option) **Avionics**
⌚ 3 credits [lecture: 30h, practical work: 24h] 📅 second term 🗨 English

Elective Courses

A total of 11 credits chosen from the following

- CNST-H528 (option/optional) **Advanced computational structural mechanics** | Thierry MASSART (Coordinator)
⌚ 4 credits [lecture: 12h, practical work: 36h] 📅 first term 🗨 English
- ELEC-H509 (option/optional) **Optimization-based Control Design** | Emanuele GARONE (Coordinator)
⌚ 4 credits [lecture: 24h, tutorial classes: 24h] 📅 first term 🗨 English
- GEST-Y503 (option/optional) **EUTOPIA learning unit : Technological business development project** | Thomas Crispeels (Coordinator)
⌚ 3 credits [tutorial classes: 13h, personal assignments: 71h] 📅 academic year 🗨 English
- MATH-H503 (option/optional) **Model-Based and Data-Driven Fault Detection and Isolation** | Michel KINNAERT (Coordinator)
⌚ 4 credits [lecture: 24h, practical work: 24h] 📅 second term 🗨 English
- MECA-H523 (option/optional) **Helicopters** | Elmar RECKER (Coordinator)
⌚ 3 credits [lecture: 24h, tutorial classes: 12h] 📅 second term 🗨 English
- MECA-H534 (option/optional) **Acoustics** | Jean-Louis MIGEOT (Coordinator)
⌚ 4 credits [lecture: 24h, tutorial classes: 24h] 📅 first term 🗨 English
- MECA-Y014 (option/optional) **Aircraft systems** | Tim De Troyer (Coordinator)
⌚ 4 credits [lecture: 30h, project: 12h] 📅 first term 🗨 English
- MECA-Y500 (option/optional) **Experimental fluid mechanics** | Jeroen VAN BEECK (Coordinator) and Tim De Troyer
⌚ 3 credits [lecture: 12h, practical work: 24h] 📅 second term 🗨 English
- MECA-Y501 (option/optional) **Aircraft specification and certification** | Jean-Jacques SPEYER (Coordinator)
⌚ 3 credits [lecture: 18h, personal assignments: 18h] 📅 second term 🗨 English
- MECA-Y507 (option/optional) **Wind Turbine Aerodynamics and Design** | Mark RUNACRES (Coordinator)
⌚ 4 credits [lecture: 21h, practical work: 21h] 📅 first term 🗨 English
- STAG-H501 (option/optional) **Internship (60 days)** | Frédéric ROBERT (Coordinator)
⌚ 10 credits [personal assignments: 300h] 📅 first term 🗨 English
- STAG-H502 (option/optional) **Internship (40 days)** | Lincy Pyl (Coordinator)
⌚ 6 credits [personal assignments: 180h] 📅 first term 🗨 English

Free elective courses

Students have also the opportunity to choose courses among the courses of the 'transversal modules' of the School.

English : LANG-H500

Engineering and society : PROJ-H421 - GEST-H509 - BIME-G5505 - PHYS-F517

Sustainability : GEST-S492 - ENVI-F405 - CHIM-H504 - ENVI-F452 - ENVI-F454 - ELEC-Y514

Finance, accounting, management, marketing, logistics and quality : GEST-S101 - GEST-S318 - GEST-S421 - GEST-Y501 - GEST-H501 - GEST-H502

Participation to a summer school : EDUC-H601

Free elective courses

Up to six credits chosen from the following

BIME-G5505 (option/optional)	Interfaculty and interdisciplinary program in Healthcare Innovation Hilde STEVENS (Coordinator) ⌚ 5 credits [lecture: 40h, tutorial classes: 20h] 📅 second term 🗨 English
CHIM-H504 (option/optional)	Engineering aspects of circular economy Prakash VENKATESAN (Coordinator) ⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 second term 🗨 English
DROI-C5174 (option/optional)	Approche interdisciplinaire du droit de la propriété intellectuelle/Interdisciplinary Approach to In Julien CABAY (Coordinator) ⌚ 5 credits [lecture: 24h] 📅 first term 🗨 English/French
EDUC-H601 (option/optional)	Summer School Johan GYSELINCK (Coordinator) ⌚ 5 credits [personal assignments: 5h] 📅 academic year 🗨 English
ELEC-Y514 (option/optional)	Sustainability : an interdisciplinary Approach Cathy MACHARIS (Coordinator) and Waldo Galle ⌚ 6 credits [lecture: 36h, practical work: 24h, personal assignments: 100h] 📅 academic year 🗨 English
ENVI-F405 (option/optional)	Climat: sciences et politiques Frank PATTYN (Coordinator) and Louise Knops ⌚ 5 credits [lecture: 40h] 📅 second term 🗨 French
ENVI-F452 (option/optional)	Environmental impact analysis and management Wouter ACHTEN (Coordinator) ⌚ 5 credits [lecture: 24h, practical work: 12h, project: 24h] 📅 first term 🗨 English/French
ENVI-F454 (option/optional)	Energie: Société et environnement Michel HUART (Coordinator) and Nadine MATTIELLI ⌚ 5 credits [lecture: 30h, practical work: 12h, project: 24h] 📅 first term 🗨 French
GEST-H501 (option/optional)	Logistics Engineering and Management Alassane Ballé NDIAYE (Coordinator) ⌚ 5 credits [lecture: 12h, tutorial classes: 36h] 📅 first term 🗨 English
GEST-H502 (option/optional)	Supply Chain Performance Analytics Alassane Ballé NDIAYE (Coordinator) ⌚ 5 credits [lecture: 12h, tutorial classes: 36h, personal assignments: 12h] 📅 second term 🗨 English
GEST-H509 (option/optional)	Ethique de l'ingénieur ⌚ 3 credits [lecture: 12h, tutorial classes: 12h, practical work: 12h] 📅 second term 🗨 French
GEST-S101 (option/optional)	Comptabilité financière Laurent GHEERAERT (Coordinator) and Gilles GEVERS ⌚ 5 credits [lecture: 36h, tutorial classes: 8h] 📅 second term 🗨 French
GEST-S318 (option/optional)	Introduction to theoretical finance Laurent GHEERAERT (Coordinator) ⌚ 5 credits [lecture: 24h, tutorial classes: 24h] 📅 second term 🗨 English
GEST-S421 (option/optional)	Entrepreneurial ecosystems Judith BEHRENS (Coordinator) ⌚ 5 credits [lecture: 24h, tutorial classes: 24h] 📅 second term 🗨 English
GEST-S492 (option/optional)	Energy policy, sustainability & management Adel EL Gammal (Coordinator), Julien BLONDEAU and Michel HUART ⌚ 5 credits [lecture: 36h, seminars: 24h] 📅 first term 🗨 English
GEST-Y501 (option/optional)	Business Management and Entrepreneurship Marc GOLDCHSTEIN (Coordinator) ⌚ 3 credits [lecture: 33h] 📅 first term 🗨 English
LANG-H500 (option/optional)	English for professional purposes Alexander CORNFORD (Coordinator) ⌚ 5 credits [tutorial classes: 48h, personal assignments: 12h] 📅 first and second terms 🗨 English
PROJ-H421 (option/optional)	Projet polydaire: expériences didactiques innovantes pour le secondaire Simon-Pierre GORZA (Coordinator) ⌚ 5 credits [project: 150h] 📅 academic year 🗨 French

Module Energy | M-IREMR-E

Bloc 1

Partially common courses

MECA-H420 (option)	Piston Engines Axel Coussement (Coordinator) ⌚ 3 credits [lecture: 26h, practical work: 8h] 📅 first term 🗨 English
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MECA-Y404 (option) **Fuel cells and batteries** | Annick HUBIN (Coordinator)
⌚ 4 credits [lecture: 24h, practical work: 24h] 📅 first term 🗨 English

Specific courses

ELEC-H413 (option) **Electric Power Systems I** | Pierre HENNEAUX (Coordinator), Rafael FEITO-KICZAK and Jonathan SPROOTEN
⌚ 5 credits [lecture: 30h, practical work: 30h] 📅 first term 🗨 English

ELEC-H419 (option) **Multi-Physics Modelling and Simulation** | Johan GYSELINCK (Coordinator)
⌚ 4 credits [lecture: 12h, practical work: 36h] 📅 first term 🗨 English

ELEC-Y401 (option) **Nuclear energy and reactors** | Peter Baeten (Coordinator)
⌚ 5 credits [lecture: 36h, tutorial classes: 12h, practical work: 12h] 📅 second term 🗨 English

MECA-H417 (option) **Sustainable energy** | Michel HUART (Coordinator) and Julien BLONDEAU
⌚ 3 credits [lecture: 36h] 📅 first term 🗨 English

MECA-H418 (option) **Heat transfer and combustion** | Alessandro PARENTE (Coordinator)
⌚ 4 credits [lecture: 24h, seminars: 24h] 📅 second term 🗨 English

MECA-Y409 (option) **Heating, ventilation and air conditioning** | Svend Bram (Coordinator) and Julien BLONDEAU
⌚ 3 credits [lecture: 12h, practical work: 18h] 📅 second term 🗨 English

Common courses - Block 1

Options 'Energy' and 'Aeronautics' : MECA-H402 - Turbomachinery is a 5 ECTS course.

Options 'Sustainable Transport' and 'Robotics' : MECA-H402 - Turbomachinery is a 3 ECTS course.

ELEC-H406 (option) **Electrical drives** | Johan GYSELINCK (Coordinator) and Omar HEGAZY
⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 second term 🗨 English

MATH-H407 (option) **Control system design** | Emanuele GARONE (Coordinator)
⌚ 5 credits [lecture: 24h, tutorial classes: 12h, practical work: 24h] 📅 first term 🗨 English

MECA-H402 (option) **Turbomachinery** | Patrick HENDRICK (Coordinator)
⌚ 3 credits [lecture: 24h, tutorial classes: 12h] 📅 second term 🗨 English

MECA-H409 (option) **Design methodology** | Alain DELCHAMBRE (Coordinator)
⌚ 5 credits [lecture: 24h, tutorial classes: 24h, personal assignments: 12h] 📅 first term 🗨 English

MECA-H419 (option) **Data-Driven Engineering** | Alessandro PARENTE (Coordinator), Axel Coussement, Emanuele GARONE, Omar HEGAZY, Alassane Ballé NDIAYE and Mehrdad TERATANI
⌚ 4 credits [lecture: 36h, tutorial classes: 12h] 📅 second term 🗨 English

Bloc 2

Partially common courses - Block 2

PHYS-H514 (option) **Reliability and safety** | Pierre-Etienne LABEAU (Coordinator)
⌚ 3 credits [lecture: 22h, tutorial classes: 14h] 📅 first term 🗨 English

Electives courses

Students have also the opportunity to choose courses among the courses of the 'transversal modules' of the School.

A total of 17 credits chosen from the following

ELEC-H412 (option/optional) **Design and control of electrical machines** | Johan GYSELINCK (Coordinator)
⌚ 4 credits [lecture: 12h, tutorial classes: 18h, practical work: 18h] 📅 first term 🗨 English

ELEC-H543 (option/optional) **Electric Power Systems II** | Pierre HENNEAUX (Coordinator)
⌚ 5 credits [lecture: 30h, practical work: 30h] 📅 second term 🗨 English



MATH-H503 (option/optional)	Model-Based and Data-Driven Fault Detection and Isolation Michel KINNAERT (Coordinator) ⌚ 4 credits [lecture: 24h, practical work: 24h] 📅 second term 🗨 English
MATH-H510 (option/optional)	Risk-based methodologies for energy systems Pierre-Etienne LABEAU (Coordinator) and Pierre HENNEAUX ⌚ 4 credits [lecture: 24h, personal assignments: 24h] 📅 second term 🗨 English
MECA-H532 (option/optional)	Advanced internal combustion engines Axel Coussement (Coordinator) ⌚ 3 credits [lecture: 12h, tutorial classes: 14h, practical work: 16h] 📅 second term 🗨 English
MECA-Y507 (option/optional)	Wind Turbine Aerodynamics and Design Mark RUNACRES (Coordinator) ⌚ 4 credits [lecture: 21h, practical work: 21h] 📅 first term 🗨 English
PHYS-H408 (option/optional)	Operation, control and safety of nuclear systems Pierre-Etienne LABEAU (Coordinator), David FRESON and Arnaud MEERT ⌚ 5 credits [lecture: 30h, practical work: 12h, seminars: 6h, field trips: 20h] 📅 second term 🗨 English
STAG-H501 (option/optional)	Internship (60 days) Frédéric ROBERT (Coordinator) ⌚ 10 credits [personal assignments: 300h] 📅 first term 🗨 English
STAG-H502 (option/optional)	Internship (40 days) Lincy Pyl (Coordinator) ⌚ 6 credits [personal assignments: 180h] 📅 first term 🗨 English

Free elective courses - Block2

Students have also the opportunity to choose courses among the courses of the 'transversal modules' of the School.

English : LANG-H500

Engineering and society : PROJ-H421 - GEST-H509 - BIME-G5505 - PHYS-F517

Sustainability : GEST-S492 - ENVI-F405 - CHIM-H504 - ENVI-F452 - ENVI-F454 - ELEC-Y514

Finance, accounting, management, marketing, logistics and quality : GEST-S101 - GEST-S318 - GEST-S421 - GEST-Y501 GEST-H501 - GEST-H502

Participation to a summer school : EDUC-H601

Free elective courses

Up to six credits chosen from the following

BIME-G5505 (option/optional)	Interfaculty and interdisciplinary program in Healthcare Innovation Hilde STEVENS (Coordinator) ⌚ 5 credits [lecture: 40h, tutorial classes: 20h] 📅 second term 🗨 English
CHIM-H504 (option/optional)	Engineering aspects of circular economy Prakash VENKATESAN (Coordinator) ⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 second term 🗨 English
DROI-C5174 (option/optional)	Approche interdisciplinaire du droit de la propriété intellectuelle/Interdisciplinary Approach to In Julien CABAY (Coordinator) ⌚ 5 credits [lecture: 24h] 📅 first term 🗨 English/French
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ELEC-Y514 (option/optional)	Sustainability : an interdisciplinary Approach Cathy MACHARIS (Coordinator) and Waldo Galle ⌚ 6 credits [lecture: 36h, practical work: 24h, personal assignments: 100h] 📅 academic year 🗨 English
ENVI-F405 (option/optional)	Climat: sciences et politiques Frank PATTYN (Coordinator) and Louise Knops ⌚ 5 credits [lecture: 40h] 📅 second term 🗨 French
ENVI-F452 (option/optional)	Environmental impact analysis and management Wouter ACHTEN (Coordinator) ⌚ 5 credits [lecture: 24h, practical work: 12h, project: 24h] 📅 first term 🗨 English/French
ENVI-F454 (option/optional)	Energie: Société et environnement Michel HUART (Coordinator) and Nadine MATTIELLI ⌚ 5 credits [lecture: 30h, practical work: 12h, project: 24h] 📅 first term 🗨 French
GEST-H501 (option/optional)	Logistics Engineering and Management Alassane Ballé NDIAYE (Coordinator) ⌚ 5 credits [lecture: 12h, tutorial classes: 36h] 📅 first term 🗨 English

GEST-H502 (option/optional)	Supply Chain Performance Analytics Alassane Ballé NDIAYE (Coordinator) ⌚ 5 credits [lecture: 12h, tutorial classes: 36h, personal assignments: 12h] 📅 second term 🗨 English
GEST-H509 (option/optional)	Ethique de l'ingénieur ⌚ 3 credits [lecture: 12h, tutorial classes: 12h, practical work: 12h] 📅 second term 🗨 French
GEST-S101 (option/optional)	Comptabilité financière Laurent GHEERAERT (Coordinator) and Gilles GEVERS ⌚ 5 credits [lecture: 36h, tutorial classes: 8h] 📅 second term 🗨 French
GEST-S318 (option/optional)	Introduction to theoretical finance Laurent GHEERAERT (Coordinator) ⌚ 5 credits [lecture: 24h, tutorial classes: 24h] 📅 second term 🗨 English
GEST-S421 (option/optional)	Entrepreneurial ecosystems Judith BEHRENS (Coordinator) ⌚ 5 credits [lecture: 24h, tutorial classes: 24h] 📅 second term 🗨 English
GEST-S492 (option/optional)	Energy policy, sustainability & management Adel EL Gammal (Coordinator), Julien BLONDEAU and Michel HUART ⌚ 5 credits [lecture: 36h, seminars: 24h] 📅 first term 🗨 English
GEST-Y501 (option/optional)	Business Management and Entrepreneurship Marc GOLDCHSTEIN (Coordinator) ⌚ 3 credits [lecture: 33h] 📅 first term 🗨 English
LANG-H500 (option/optional)	English for professional purposes Alexander CORNFORD (Coordinator) ⌚ 5 credits [tutorial classes: 48h, personal assignments: 12h] 📅 first and second terms 🗨 English
PROJ-H421 (option/optional)	Projet polydaire: expériences didactiques innovantes pour le secondaire Simon-Pierre GORZA (Coordinator) ⌚ 5 credits [project: 150h] 📅 academic year 🗨 French

Specific courses - Block 2

ELEC-H508 (option)	Thermal power plants Julien BLONDEAU (Coordinator) ⌚ 4 credits [lecture: 34h, tutorial classes: 6h] 📅 second term 🗨 English
ELEC-H529 (option)	Electric traction Omar HEGAZY (Coordinator) ⌚ 3 credits [lecture: 18h, practical work: 18h] 📅 first term 🗨 English
GEST-H506 (option)	Energy policy and management Pierre HENNEAUX (Coordinator), Adel EL Gammal and Benjamin GENET ⌚ 5 credits [lecture: 42h, practical work: 18h] 📅 first and second terms 🗨 English
MECA-H414 (option)	Renewable energy technology Julien BLONDEAU (Coordinator) and Johan GYSELINCK ⌚ 4 credits [lecture: 24h, practical work: 24h] 📅 first term 🗨 English

Module Robotics and Mechatronics - Construction | M-IREMR-M

Bloc 1

Partially common courses

CNST-H421 (option)	Structural analysis and finite elements Peter BERKE (Coordinator) and Lincy Pyl ⌚ 5 credits [lecture: 36h, tutorial classes: 24h] 📅 first term 🗨 English
MECA-H411 (option)	Mechanical Vibrations Arnaud DERAEMAER (Coordinator) and Wout Weijtjens ⌚ 5 credits [lecture: 36h, tutorial classes: 24h] 📅 first term 🗨 English

Specific courses

ELEC-H410 (option)	Real-time computer systems François QUITIN (Coordinator) ⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 second term 🗨 English
ELEC-H516 (option)	Industrial Automation Dragomir MILOJEVIC (Coordinator) ⌚ 3 credits [lecture: 12h, practical work: 24h] 📅 first term 🗨 English



- MECA-H410 (option) **Robotics 1** | Michael VANDAMME (Coordinator)
⌚ 5 credits [lecture: 36h, tutorial classes: 24h] 📅 second term 🗨 English
- MECA-Y403 (option) **Mechatronics 1** | Bram VANDERBORGHT (Coordinator)
⌚ 5 credits [lecture: 21h, practical work: 30h, personal assignments: 40h] 📅 first term 🗨 English
- MECA-Y410 (option) **Machine elements** | Frank DAERDEN (Coordinator)
⌚ 5 credits [lecture: 24h, tutorial classes: 24h, practical work: 12h] 📅 second term 🗨 English

Common courses - Block 1

Options 'Energy' and 'Aeronautics' : MECA-H402 - Turbomachinery is a 5 ECTS course.

Options 'Sustainable Transport' and 'Robotics' : MECA-H402 - Turbomachinery is a 3 ECTS course.

- ELEC-H406 (option) **Electrical drives** | Johan GYSELINCK (Coordinator) and Omar HEGAZY
⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 second term 🗨 English
- MATH-H407 (option) **Control system design** | Emanuele GARONE (Coordinator)
⌚ 5 credits [lecture: 24h, tutorial classes: 12h, practical work: 24h] 📅 first term 🗨 English
- MECA-H402 (option) **Turbomachinery** | Patrick HENDRICK (Coordinator)
⌚ 3 credits [lecture: 24h, tutorial classes: 12h] 📅 second term 🗨 English
- MECA-H409 (option) **Design methodology** | Alain DELCHAMBRE (Coordinator)
⌚ 5 credits [lecture: 24h, tutorial classes: 24h, personal assignments: 12h] 📅 first term 🗨 English
- MECA-H419 (option) **Data-Driven Engineering** | Alessandro PARENTE (Coordinator), Axel Coussement, Emanuele GARONE, Omar HEGAZY, Alassane Ballé NDIAYE and Mehrdad TERATANI
⌚ 4 credits [lecture: 36h, tutorial classes: 12h] 📅 second term 🗨 English

Bloc 2

Partially common courses

- MECA-H406 (option) **Composite structures** | Patrick HENDRICK (Coordinator)
⌚ 3 credits [lecture: 18h, tutorial classes: 18h] 📅 second term 🗨 English
- PHYS-H514 (option) **Reliability and safety** | Pierre-Etienne LABEAU (Coordinator)
⌚ 3 credits [lecture: 22h, tutorial classes: 14h] 📅 first term 🗨 English

Specific courses

- MECA-H524 (option) **Mechatronics 2** | Christophe COLLETTE (Coordinator)
⌚ 3 credits [lecture: 12h, practical work: 24h] 📅 second term 🗨 English
- MECA-H533 (option) **Robotics II** | Tom Verstraeten (Coordinator)
⌚ 4 credits [lecture: 24h, practical work: 24h] 📅 first term 🗨 English
- MECA-Y5061 (option) **Manufacturing Technology I**
⌚ 3 credits [lecture: 12h, tutorial classes: 24h] 📅 first term 🗨 English
- MECA-Y5062 (option) **Manufacturing Technology 2** | Tim BROECKHOVEN (Coordinator)
⌚ 3 credits [lecture: 18h, tutorial classes: 12h, personal assignments: 18h] 📅 second term 🗨 English

Elective courses

A total of 17 credits chosen from the following

- ELEC-H412 (option/optional) **Design and control of electrical machines** | Johan GYSELINCK (Coordinator)
⌚ 4 credits [lecture: 12h, tutorial classes: 18h, practical work: 18h] 📅 first term 🗨 English
- ELEC-H424 (option/optional) **Active medical devices** | Antoine NONCLERCQ (Coordinator)
⌚ 5 credits [lecture: 24h, tutorial classes: 12h, practical work: 24h] 📅 second term 🗨 English



ELEC-H509 (option/optional)	Optimization-based Control Design Emanuele GARONE (Coordinator) ⌚ 4 credits [lecture: 24h, tutorial classes: 24h] 📅 first term 🗨 English
GEST-Y501 (option/optional)	Business Management and Entrepreneurship Marc GOLDCHSTEIN (Coordinator) ⌚ 3 credits [lecture: 33h] 📅 first term 🗨 English
GEST-Y503 (option/optional)	EUTOPIA learning unit : Technological business development project Thomas Crispeels (Coordinator) ⌚ 3 credits [tutorial classes: 13h, personal assignments: 71h] 📅 academic year 🗨 English
MECA-H500 (option/optional)	Microfabrication techniques Pierre LAMBERT (Coordinator) ⌚ 5 credits [lecture: 24h, practical work: 12h, personal assignments: 48h] 📅 academic year 🗨 English
MECA-H501 (option/optional)	Soft microrobotics Pierre LAMBERT (Coordinator) ⌚ 5 credits [lecture: 24h, practical work: 24h, personal assignments: 24h] 📅 academic year 🗨 English
MECA-H525 (option/optional)	Multibody mechanics Dirk LEFEBER (Coordinator) ⌚ 3 credits [lecture: 12h, practical work: 24h] 📅 first term 🗨 English
MECA-H534 (option/optional)	Acoustics Jean-Louis MIGEOT (Coordinator) ⌚ 4 credits [lecture: 24h, tutorial classes: 24h] 📅 first term 🗨 English
MECA-H537 (option/optional)	📅 unknown term
MECA-Y502 (option/optional)	Theory and Practice of Advanced Control Emanuele GARONE (Coordinator) and Michel KINNAERT ⌚ 4 credits [lecture: 24h, practical work: 24h] 📅 second term 🗨 English
MECA-Y503 (option/optional)	Case studies with composite materials Maarten Venmans (Coordinator) and Roel CALLEBAUT ⌚ 3 credits [lecture: 24h, personal assignments: 12h] 📅 academic year 🗨 English
STAG-H501 (option/optional)	Internship (60 days) Frédéric ROBERT (Coordinator) ⌚ 10 credits [personal assignments: 300h] 📅 first term 🗨 English
STAG-H502 (option/optional)	Internship (40 days) Lincy Pyl (Coordinator) ⌚ 6 credits [personal assignments: 180h] 📅 first term 🗨 English

Free elective courses

Students have also the opportunity to choose courses among the courses of the 'transversal modules' of the School.

English : LANG-H500

Engineering and society : PROJ-H421 - GEST-H509 - BIME-G5505 - PHYS-F517

Sustainability : GEST-S492 - ENVI-F405 - CHIM-H504 - ENVI-F452 - ENVI-F454 - ELEC-Y514

Finance, accounting, management, marketing, logistics and quality : GEST-S101 - GEST-S318 - GEST-S421 - GEST-Y501 - GEST-H501 - GEST-H502

Participation to a summer school : EDUC-H601

Free elective courses

Up to six credits chosen from the following

BIME-G5505 (option/optional)	Interfaculty and interdisciplinary program in Healthcare Innovation Hilde STEVENS (Coordinator) ⌚ 5 credits [lecture: 40h, tutorial classes: 20h] 📅 second term 🗨 English
CHIM-H504 (option/optional)	Engineering aspects of circular economy Prakash VENKATESAN (Coordinator) ⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 second term 🗨 English
DROI-C5174 (option/optional)	Approche interdisciplinaire du droit de la propriété intellectuelle/Interdisciplinary Approach to In Julien CABAY (Coordinator) ⌚ 5 credits [lecture: 24h] 📅 first term 🗨 English/French
EDUC-H601 (option/optional)	Summer School Johan GYSELINCK (Coordinator) ⌚ 5 credits [personal assignments: 5h] 📅 academic year 🗨 English

ELEC-Y514 (option/optional)	Sustainability : an interdisciplinary Approach Cathy MACHARIS (Coordinator) and Waldo Galle ⌚ 6 credits [lecture: 36h, practical work: 24h, personal assignments: 100h] 📅 academic year 🗨 English
ENVI-F405 (option/optional)	Climat: sciences et politiques Frank PATTYN (Coordinator) and Louise Knops ⌚ 5 credits [lecture: 40h] 📅 second term 🗨 French
ENVI-F452 (option/optional)	Environmental impact analysis and management Wouter ACHTEN (Coordinator) ⌚ 5 credits [lecture: 24h, practical work: 12h, project: 24h] 📅 first term 🗨 English/French
ENVI-F454 (option/optional)	Energie: Société et environnement Michel HUART (Coordinator) and Nadine MATTIELLI ⌚ 5 credits [lecture: 30h, practical work: 12h, project: 24h] 📅 first term 🗨 French
GEST-H501 (option/optional)	Logistics Engineering and Management Alassane Ballé NDIAYE (Coordinator) ⌚ 5 credits [lecture: 12h, tutorial classes: 36h] 📅 first term 🗨 English
GEST-H502 (option/optional)	Supply Chain Performance Analytics Alassane Ballé NDIAYE (Coordinator) ⌚ 5 credits [lecture: 12h, tutorial classes: 36h, personal assignments: 12h] 📅 second term 🗨 English
GEST-H509 (option/optional)	Ethique de l'ingénieur ⌚ 3 credits [lecture: 12h, tutorial classes: 12h, practical work: 12h] 📅 second term 🗨 French
GEST-S101 (option/optional)	Comptabilité financière Laurent GHEERAERT (Coordinator) and Gilles GEVERS ⌚ 5 credits [lecture: 36h, tutorial classes: 8h] 📅 second term 🗨 French
GEST-S318 (option/optional)	Introduction to theoretical finance Laurent GHEERAERT (Coordinator) ⌚ 5 credits [lecture: 24h, tutorial classes: 24h] 📅 second term 🗨 English
GEST-S421 (option/optional)	Entrepreneurial ecosystems Judith BEHRENS (Coordinator) ⌚ 5 credits [lecture: 24h, tutorial classes: 24h] 📅 second term 🗨 English
GEST-S492 (option/optional)	Energy policy, sustainability & management Adel EL Gammal (Coordinator), Julien BLONDEAU and Michel HUART ⌚ 5 credits [lecture: 36h, seminars: 24h] 📅 first term 🗨 English
GEST-Y501 (option/optional)	Business Management and Entrepreneurship Marc GOLDCHSTEIN (Coordinator) ⌚ 3 credits [lecture: 33h] 📅 first term 🗨 English
LANG-H500 (option/optional)	English for professional purposes Alexander CORNFORD (Coordinator) ⌚ 5 credits [tutorial classes: 48h, personal assignments: 12h] 📅 first and second terms 🗨 English
PROJ-H421 (option/optional)	Projet polydaire: expériences didactiques innovantes pour le secondaire Simon-Pierre GORZA (Coordinator) ⌚ 5 credits [project: 150h] 📅 academic year 🗨 French

Module Sustainable Transport and Automotive Engineering | M-IREMR-S

Bloc 1

Partially common courses - Block 1

CNST-H421 (option)	Structural analysis and finite elements Peter BERKE (Coordinator) and Lincy Pyl ⌚ 5 credits [lecture: 36h, tutorial classes: 24h] 📅 first term 🗨 English
MECA-H411 (option)	Mechanical Vibrations Arnaud DERAEMAER (Coordinator) and Wout Weijtjens ⌚ 5 credits [lecture: 36h, tutorial classes: 24h] 📅 first term 🗨 English
MECA-H420 (option)	Piston Engines Axel Coussement (Coordinator) ⌚ 3 credits [lecture: 26h, practical work: 8h] 📅 first term 🗨 English

Specific courses - Block 1

ELEC-H527 (option)	Railway technology Valérie Ann JACOBS (Coordinator), Omar HEGAZY and Philippe LATAIRE ⌚ 6 credits [lecture: 42h, practical work: 30h] 📅 first and second terms 🗨 English
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- ELEC-Y405 (option) **Vehicle dynamics and kinematics** | Kristof HARRI (Coordinator)
⌚ 4 credits [lecture: 24h, practical work: 24h] 📅 first term 🗨 English
- ELEC-Y502 (option) **Sustainable mobility and logistics** | Philippe Marc F Lebeau (Coordinator) and Cathy MACHARIS
⌚ 3 credits [lecture: 24h, personal assignments: 62h] 📅 first term 🗨 English
- ELEC-Y510 (option) **Electric and Hybrid Vehicle Traction** | Joeri VAN MIERLO (Coordinator)
⌚ 4 credits [lecture: 12h, tutorial classes: 36h] 📅 second term 🗨 English
- MECA-Y406 (option) **Vehicle aerodynamics** | Ghader Ghorbaniasl (Coordinator)
⌚ 3 credits [tutorial classes: 40h] 📅 second term 🗨 English

Common courses - Block 1

Options 'Energy' and 'Aeronautics' : MECA-H402 - Turbomachinery is a 5 ECTS course.

Options 'Sustainable Transport' and 'Robotics' : MECA-H402 - Turbomachinery is a 3 ECTS course.

- ELEC-H406 (option) **Electrical drives** | Johan GYSELINCK (Coordinator) and Omar HEGAZY
⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 second term 🗨 English
- MATH-H407 (option) **Control system design** | Emanuele GARONE (Coordinator)
⌚ 5 credits [lecture: 24h, tutorial classes: 12h, practical work: 24h] 📅 first term 🗨 English
- MECA-H402 (option) **Turbomachinery** | Patrick HENDRICK (Coordinator)
⌚ 3 credits [lecture: 24h, tutorial classes: 12h] 📅 second term 🗨 English
- MECA-H409 (option) **Design methodology** | Alain DELCHAMBRE (Coordinator)
⌚ 5 credits [lecture: 24h, tutorial classes: 24h, personal assignments: 12h] 📅 first term 🗨 English
- MECA-H419 (option) **Data-Driven Engineering** | Alessandro PARENTE (Coordinator), Axel Coussement, Emanuele GARONE, Omar HEGAZY, Alassane Ballé NDIAYE and Mehrdad TERATANI
⌚ 4 credits [lecture: 36h, tutorial classes: 12h] 📅 second term 🗨 English

Bloc 2

Specific courses - Block 2

- ELEC-Y501 (option) **Vehicle electronics** | Peter Van Den Bossche (Coordinator), Valérie Ann JACOBS, HICHEM SAHLI and Leo VAN BIESEN
⌚ 6 credits [lecture: 36h, practical work: 36h] 📅 first term 🗨 English
- MECA-H532 (option) **Advanced internal combustion engines** | Axel Coussement (Coordinator)
⌚ 3 credits [lecture: 12h, tutorial classes: 14h, practical work: 16h] 📅 second term 🗨 English

Partially common courses - Block 2

- MECA-H406 (option) **Composite structures** | Patrick HENDRICK (Coordinator)
⌚ 3 credits [lecture: 18h, tutorial classes: 18h] 📅 second term 🗨 English
- MECA-Y404 (option) **Fuel cells and batteries** | Annick HUBIN (Coordinator)
⌚ 4 credits [lecture: 24h, practical work: 24h] 📅 first term 🗨 English

Elective courses - Block 2

A total of 20 credits chosen from the following

- ELEC-Y504 (option/optional) **Supply chain management** | Cathy MACHARIS (Coordinator)
⌚ 6 credits [lecture: 28h, practical work: 17h, personal assignments: 114h] 📅 second term 🗨 English
- ELEC-Y508 (option/optional) **Automotive standardization** | Peter Van Den Bossche (Coordinator)
⌚ 3 credits [lecture: 12h, personal assignments: 40h] 📅 first term 🗨 English



ELEC-Y514 (option/optional)	Sustainability : an interdisciplinary Approach Cathy MACHARIS (Coordinator) and Waldo Galle ⌚ 6 credits [lecture: 36h, practical work: 24h, personal assignments: 100h] 📅 academic year 🗨 English
ELEC-Y560 (option/optional)	Operations Management ⌚ 6 credits [lecture: 24h, tutorial classes: 27h] 📅 first term 🗨 French
GEST-Y500 (option/optional)	Entrepreneurship Nikolay DENTCHEV (Coordinator) ⌚ 3 credits [lecture: 15h, tutorial classes: 9h, personal assignments: 62h] 📅 first term 🗨 English
GEST-Y502 (option/optional)	Business Aspects of Technology: Factory of the Future Thomas Crispeels (Coordinator) ⌚ 3 credits [lecture: 27h, personal assignments: 59h] 📅 first term 🗨 English
GEST-Y503 (option/optional)	EUTOPIA learning unit : Technological business development project Thomas Crispeels (Coordinator) ⌚ 3 credits [tutorial classes: 13h, personal assignments: 71h] 📅 academic year 🗨 English
INFO-Y512 (option/optional)	Machine Learning Ann NOWE (Coordinator) ⌚ 6 credits [lecture: 26h, tutorial classes: 26h, personal assignments: 150h] 📅 first term 🗨 Dutch
MECA-H534 (option/optional)	Acoustics Jean-Louis MIGEOT (Coordinator) ⌚ 4 credits [lecture: 24h, tutorial classes: 24h] 📅 first term 🗨 English
MECA-H537 (option/optional)	Naval Robotics Emanuele GARONE (Coordinator) ⌚ 4 credits [lecture: 24h, tutorial classes: 24h] 📅 second term 🗨 English
MECA-Y500 (option/optional)	Experimental fluid mechanics Jeroen VAN BEECK (Coordinator) and Tim De Troyer ⌚ 3 credits [lecture: 12h, practical work: 24h] 📅 second term 🗨 English
MECA-Y503 (option/optional)	Case studies with composite materials Maarten Venmans (Coordinator) and Roel CALLEBAUT ⌚ 3 credits [lecture: 24h, personal assignments: 12h] 📅 academic year 🗨 English
STAG-H501 (option/optional)	Internship (60 days) Frédéric ROBERT (Coordinator) ⌚ 10 credits [personal assignments: 300h] 📅 first term 🗨 English
STAG-H502 (option/optional)	Internship (40 days) Lincy Pyl (Coordinator) ⌚ 6 credits [personal assignments: 180h] 📅 first term 🗨 English

Free elective courses

Students have also the opportunity to choose courses among the courses of the 'transversal modules' of the School.

English : LANG-H500

Engineering and society : PROJ-H421 - GEST-H509 - BIME-G5505 - PHYS-F517

Sustainability : GEST-S492 - ENVI-F405 - CHIM-H504 - ENVI-F452 - ENVI-F454 - ELEC-Y514

Finance, accounting, management, marketing, logistics and quality : GEST-S101 - GEST-S318 - GEST-S421 - GEST-Y501 - GEST-H501 - GEST-H502

Participation to a summer school : EDUC-H601

Free elective courses

Up to six credits chosen from the following

BIME-G5505 (option/optional)	Interfaculty and interdisciplinary program in Healthcare Innovation Hilde STEVENS (Coordinator) ⌚ 5 credits [lecture: 40h, tutorial classes: 20h] 📅 second term 🗨 English
CHIM-H504 (option/optional)	Engineering aspects of circular economy Prakash VENKATESAN (Coordinator) ⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 second term 🗨 English
DROI-C5174 (option/optional)	Approche interdisciplinaire du droit de la propriété intellectuelle/Interdisciplinary Approach to In Julien CABAY (Coordinator) ⌚ 5 credits [lecture: 24h] 📅 first term 🗨 English/French
EDUC-H601 (option/optional)	Summer School Johan GYSELINCK (Coordinator) ⌚ 5 credits [personal assignments: 5h] 📅 academic year 🗨 English

ELEC-Y514 <small>(option/optional)</small>	Sustainability : an interdisciplinary Approach Cathy MACHARIS (Coordinator) and Waldo Galle ⌚ 6 credits [lecture: 36h, practical work: 24h, personal assignments: 100h] 📅 academic year 🗨 English
ENVI-F405 <small>(option/optional)</small>	Climat: sciences et politiques Frank PATTYN (Coordinator) and Louise Knops ⌚ 5 credits [lecture: 40h] 📅 second term 🗨 French
ENVI-F452 <small>(option/optional)</small>	Environmental impact analysis and management Wouter ACHTEN (Coordinator) ⌚ 5 credits [lecture: 24h, practical work: 12h, project: 24h] 📅 first term 🗨 English/French
ENVI-F454 <small>(option/optional)</small>	Energie: Société et environnement Michel HUART (Coordinator) and Nadine MATTIELLI ⌚ 5 credits [lecture: 30h, practical work: 12h, project: 24h] 📅 first term 🗨 French
GEST-H501 <small>(option/optional)</small>	Logistics Engineering and Management Alassane Ballé NDIAYE (Coordinator) ⌚ 5 credits [lecture: 12h, tutorial classes: 36h] 📅 first term 🗨 English
GEST-H502 <small>(option/optional)</small>	Supply Chain Performance Analytics Alassane Ballé NDIAYE (Coordinator) ⌚ 5 credits [lecture: 12h, tutorial classes: 36h, personal assignments: 12h] 📅 second term 🗨 English
GEST-H509 <small>(option/optional)</small>	Ethique de l'ingénieur ⌚ 3 credits [lecture: 12h, tutorial classes: 12h, practical work: 12h] 📅 second term 🗨 French
GEST-S101 <small>(option/optional)</small>	Comptabilité financière Laurent GHEERAERT (Coordinator) and Gilles GEVERS ⌚ 5 credits [lecture: 36h, tutorial classes: 8h] 📅 second term 🗨 French
GEST-S318 <small>(option/optional)</small>	Introduction to theoretical finance Laurent GHEERAERT (Coordinator) ⌚ 5 credits [lecture: 24h, tutorial classes: 24h] 📅 second term 🗨 English
GEST-S421 <small>(option/optional)</small>	Entrepreneurial ecosystems Judith BEHRENS (Coordinator) ⌚ 5 credits [lecture: 24h, tutorial classes: 24h] 📅 second term 🗨 English
GEST-S492 <small>(option/optional)</small>	Energy policy, sustainability & management Adel EL Gammal (Coordinator), Julien BLONDEAU and Michel HUART ⌚ 5 credits [lecture: 36h, seminars: 24h] 📅 first term 🗨 English
GEST-Y501 <small>(option/optional)</small>	Business Management and Entrepreneurship Marc GOLDCHSTEIN (Coordinator) ⌚ 3 credits [lecture: 33h] 📅 first term 🗨 English
LANG-H500 <small>(option/optional)</small>	English for professional purposes Alexander CORNFORD (Coordinator) ⌚ 5 credits [tutorial classes: 48h, personal assignments: 12h] 📅 first and second terms 🗨 English
PROJ-H421 <small>(option/optional)</small>	Projet polydaire: expériences didactiques innovantes pour le secondaire Simon-Pierre GORZA (Coordinator) ⌚ 5 credits [project: 150h] 📅 academic year 🗨 French

