

Master of science in Architecture and Engineering

Focus Professional

Bloc 1 | M-IRARE | MA-IRAR

Compulsory common courses - Block 1

ARCH-H400	Sustainable urban Design Studio Ahmed Zaib KHAN MAHSUD (Coordinator) and Hera Van Sande ⌚ 8 credits [workshop: 240h] 📅 first term 🗨 English
ARCH-H4002	Sustainable architectural design studio Ahmed Zaib KHAN MAHSUD (Coordinator) and Hera Van Sande ⌚ 8 credits [workshop: 240h] 📅 second term 🗨 English
ARCH-H403	Research methods in architectural engineering research Ine WOUTERS (Coordinator) and Ahmed Zaib KHAN MAHSUD ⌚ 4 credits [lecture: 12h, practical work: 12h, personal assignments: 48h] 📅 second term 🗨 English
ARCH-H406	Post-war history of construction and architecture Rika DEVOS (Coordinator) ⌚ 5 credits [lecture: 18h, tutorial classes: 6h, practical work: 24h, personal assignments: 12h] 📅 second term 🗨 English
ARCH-Y400	Design of concrete structures Sven DE SUTTER (Coordinator) ⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 first term 🗨 English
ARCH-Y402	Spatial structures : design and analysis Lars DE LAET (Coordinator) ⌚ 5 credits [lecture: 18h, practical work: 24h, personal assignments: 24h] 📅 second term 🗨 English
ARCH-Y405	Design of steel structures ⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 first term 🗨 English
ARCH-Y406	Structural renovation techniques Ine WOUTERS (Coordinator) ⌚ 5 credits [lecture: 24h, practical work: 24h, personal assignments: 12h] 📅 first term 🗨 English
CNST-Y504	Transformable structures for circularity Niels DE TEMMERMAN (Coordinator) ⌚ 5 credits [lecture: 18h, practical work: 24h, personal assignments: 24h] 📅 first term 🗨 English
CNST-Y512	Energy performance of buildings ⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 second term 🗨 English

Electives MA1

Course to choose

One course chosen from the following

ARCH-Y407 (optional)	Theoretical reflections on architectural heritage Stéphanie VAN DE VOORDE (Coordinator) ⌚ 5 credits [lecture: 24h, practical work: 24h] 📅 first term 🗨 English
CNST-H421 (optional)	Structural analysis and finite elements Peter BERKE (Coordinator) and Lincy Pyl ⌚ 5 credits [lecture: 36h, tutorial classes: 24h] 📅 first term 🗨 English
CNST-H423 (optional)	Architecture, engineering and construction project management Philippe BOUILLARD (Coordinator) ⌚ 5 credits [lecture: 36h, practical work: 24h] 📅 second term 🗨 English

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Bloc 2 | M-IRARE | MA-IRAR

Advanced design studio MA2

ARCH-H5041 [Advanced design studio - part 1](#) | Jonas Lindekens (Coordinator), Stéphane Meyrant and Laurent NEY
⌚ 4 credits [workshop: 120h] 📅 first term 🗨 English

ARCH-H5042 [Advanced design studio - part 2](#) | Jonas Lindekens (Coordinator), Stéphane Meyrant and Laurent NEY
⌚ 4 credits [workshop: 120h] 📅 second term 🗨 English

Master thesis - Block 2

MEMO-H507 [Master thesis architectural engineering](#) | Rika DEVOS (Coordinator) and Stéphanie VAN DE VOORDE
⌚ 24 credits [personal assignments: 600h] 📅 first and second terms 🗨 English

Electives courses MA2

Elective courses

Up to 6 ECTS can be selected in the transversal module, or in other Master programmes at ULB or VUB (after academic validation).

1 to 28 credits chosen from the following

Elective courses

ARCH-H502 (optional) [Theory of architecture and urbanism](#) | Ahmed Zaib KHAN MAHSUD (Coordinator)
⌚ 5 credits [lecture: 24h, practical work: 24h, personal assignments: 12h] 📅 first term 🗨 English

ARCH-Y407 (optional) [Theoretical reflections on architectural heritage](#) | Stéphanie VAN DE VOORDE (Coordinator)
⌚ 5 credits [lecture: 24h, practical work: 24h] 📅 first term 🗨 English

ARCH-Y500 (optional) [Low energy design for sustainable buildings](#)
⌚ 5 credits [lecture: 12h, practical work: 48h, personal assignments: 6h] 📅 first term 🗨 English

ARCH-Y501 (optional) [Daylighting in buildings](#)
⌚ 4 credits [lecture: 12h, practical work: 24h, personal assignments: 30h] 📅 first term 🗨 English

ARCH-Y503 (optional) [Forensic engineering](#) | Nicolas DECLERCK (Coordinator)
⌚ 5 credits [lecture: 48h] 📅 second term 🗨 English

CNST-H406 (optional) [Geotechnical engineering](#) | Alessia Cuccurullo (Coordinator) and Pierre GERARD
⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 first term 🗨 English

CNST-H421 (optional) [Structural analysis and finite elements](#) | Peter BERKE (Coordinator) and Lincy Pyl
⌚ 5 credits [lecture: 36h, tutorial classes: 24h] 📅 first term 🗨 English

CNST-H422 (optional) [Sustainability in construction](#) | Didier Snoeck (Coordinator)
⌚ 4 credits [lecture: 24h, practical work: 24h] 📅 second term 🗨 English

CNST-H423 (optional) [Architecture, engineering and construction project management](#) | Philippe BOUILLARD (Coordinator)
⌚ 5 credits [lecture: 36h, practical work: 24h] 📅 second term 🗨 English

CNST-Y515 (optional) [Room acoustics](#)
⌚ 3 credits [lecture: 12h, practical work: 24h] 📅 first term 🗨 English

ELEC-Y514 (optional)	Sustainability : an interdisciplinary Approach Cathy MACHARIS (Coordinator) and Waldo Galle ⌚ 6 credits [lecture: 36h, practical work: 24h, personal assignments: 100h] 📅 academic year 🗣 English
PROJ-H502 (optional)	Design project competition Philippe BOUILLARD (Coordinator) and Vincent GERIN ⌚ 4 credits [seminars: 30h, project: 90h] 📅 second term 🗣 English
STAG-H501 (optional)	Internship (60 days) Frédéric ROBERT (Coordinator) ⌚ 10 credits [work placement: 300h] 📅 first term 🗣 English
STAG-H506 (optional)	Internship architectural engineering (40 working days) Lincy Pyl (Coordinator) ⌚ 6 credits [personal assignments: 180h] 📅 first term 🗣 English
URBA-H500 (optional)	Infrastructure and Mobility Philippe BOUILLARD (Coordinator) ⌚ 5 credits [lecture: 24h, tutorial classes: 12h, field trips: 30h, personal assignments: 30h] 📅 second term 🗣 English
URBA-H5002 (optional)	Urban, environmental and construction law Kim MORIC (Coordinator) ⌚ 3 credits [lecture: 24h, field trips: 12h] 📅 second 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

Up to six credits chosen from the following

BIME-G5505 (optional)	Interfaculty and interdisciplinary program in Healthcare Innovation Hilde STEVENS (Coordinator) ⌚ 5 credits [lecture: 40h, tutorial classes: 20h] 📅 second term 🗣 English
CHIM-H504 (optional)	Engineering aspects of circular economy Prakash VENKATESAN (Coordinator) ⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 second term 🗣 English
DROI-C5174 (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 (optional)	Summer School Johan GYSELINCK (Coordinator) ⌚ 5 credits [personal assignments: 5h] 📅 academic year 🗣 English
ELEC-Y514 (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 (optional)	Climat: sciences et politiques Frank PATTYN (Coordinator) and Louise Knops ⌚ 5 credits [lecture: 40h] 📅 second term 🗣 French
ENVI-F452 (optional)	Environmental impact analysis and management Wouter ACHTEN (Coordinator) ⌚ 5 credits [lecture: 24h, practical work: 12h, project: 24h] 📅 first term 🗣 English/French
ENVI-F454 (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 (optional)	Logistics Engineering and Management Alassane Ballé NDIAYE (Coordinator) ⌚ 5 credits [lecture: 12h, tutorial classes: 36h] 📅 first term 🗣 English
GEST-H502 (optional)	Supply Chain Performance Analytics Alassane Ballé NDIAYE (Coordinator) ⌚ 5 credits [lecture: 12h, tutorial classes: 36h, personal assignments: 12h] 📅 second term 🗣 English
GEST-S101 (optional)	Comptabilité financière Laurent GHEERAERT (Coordinator) and Gilles GEVERS ⌚ 5 credits [lecture: 36h, tutorial classes: 8h] 📅 second term 🗣 French

GEST-S318 (optional)	Introduction to theoretical finance Laurent GHEERAERT (Coordinator) ⌚ 5 credits [lecture: 24h, tutorial classes: 24h] 📅 second term 🗨 English
GEST-S421 (optional)	Entrepreneurial ecosystems Judith BEHRENS (Coordinator) ⌚ 5 credits [lecture: 24h, tutorial classes: 24h] 📅 second term 🗨 English
GEST-S492 (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 (optional)	Business Management and Entrepreneurship Marc GOLDCHSTEIN (Coordinator) ⌚ 3 credits [lecture: 33h] 📅 first term 🗨 English
LANG-H500 (optional)	English for professional purposes Alexander CORNFORD (Coordinator) ⌚ 5 credits [tutorial classes: 48h, personal assignments: 12h] 📅 first and second terms 🗨 English
PROJ-H421 (optional)	Projet polydaire: expériences didactiques innovantes pour le secondaire Simon-Pierre GORZA (Coordinator) ⌚ 5 credits [project: 150h] 📅 academic year 🗨 French