

Faculty of Applied Sciences



ARCH2

Ingénieur civil architecte (Diploma of the Second Cycle (Ingénieur civil) in Architecture)



Programme management

AUCE Département d'architecture, d'urbanisme et de génie civil environnemental

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Study objectives

The programme trains students in the subject of architecture by building on the knowledge and skills proper to Applied Sciences. The ability to carry out a full architectural project is one of the main aims of these studies. This is acquired on parallel lines with learning the sciences and technologies of construction, the theory and history of architectonic forms, representation methods and an ethical positioning supported by Human Sciences.

Admission conditions

The study programmes leading to a university degree in Civil Architect-Engineering are accessible to all students holding a Belgian university first study cycle diploma ("candidat") in Civil Architect-Engineering. Holders of a foreign diploma judged to be equivalent, may also have access to these programmes.

Admission procedure

The University admission and enrolment procedures are detailed in the section "Access to Studies" on the web page : <http://www.ucl.ac.be/etudes/libres/acces.html>

General structure of the programme

The programme is organised in the form of three years of studies, or six quadrimesters, which lead on from the two years of the first cycle of university studies ("candidature") in Civil Architect-Engineering. The courses, practical exercises and project workshops are grouped together in five subject areas which form a core syllabus :

1. Conception and composition
2. Architecture, towns and territory
3. Structure and materials
4. Construction works
5. Applied Physics, climate, equipment, sustainable development

As from the fourth quadrimester, the students will choose an orientation from among four complementary modules :

1. Conception and composition
2. Architecture, towns and territory
3. Structure and technology
4. Construction works
5. Applied Physics, climate, equipment, sustainable development

This orientation completes the core syllabus of the subject areas and fully involves the students right until the end of the programme. It determines the courses, practical exercises and project workshops to be followed in the context of the complementary module, as well as the topics on which their studies will be based.

Programme content

1. Programme composition

General and Polyvalent courses

<u>AMCO2591</u>	Législation du bâtiment et éléments du droit industriel[22.5h] Pierre Nihoul (2 credits) (in French)
<u>FSAC1570</u>	A préciser (in French)

<u>FSA2300</u>	Religious Science Questions[15h] (2 credits) (in French)	Bernard Van Meenen
<u>BIR1311</u>	Thermodynamics[30h+15h] (3.5 credits) (in French)	Yann Bartosiewicz
<u>MECA2901</u>	A préciser (in French)	
<i>The "Civil Architect-Engineering" students will only follow part A [22.5 hours + 22.5 hours] (3,5 ECTS)</i>		
<u>MECA2120</u>	Introduction to finite element methods.[30h+30h] (5 credits) (in French)	Vincent Legat

Specialised courses

Students will follow 5 shortened modules, corresponding to 5 subjects of the core courses and, from the 4th quadrimester on, the complementary module corresponding to the orientation chosen.

Shortened modules**Conception and composition**

<u>AMCO2341</u>	A préciser (in French)	
<u>AMCO2343</u>	Design Mechanisms[15h] (2 credits) (in French)	Nicolas Van Oost
<u>AMCO2346</u>	Philosophical and aesthetic approaches to architecture[22.5h] (2 credits) ☒ (in French)	Jean Stillemans
<u>AMCO2347</u>	A préciser (in French)	
<u>AMCO2350</u>	A préciser (in French)	
<u>AMCO2349</u>	Contemporary questions in architectural theory[22.5h] (2 credits) ⊕ (in French)	David Vanderburgh
<u>AMCO2371</u>	A préciser (in French)	
<u>AMCO2372</u>	A préciser (in French)	
<u>AMCO2373</u>	Design drawing: Manual[30h] (3 credits) (in French)	Gérard Dutry
<u>AMCO2374</u>	A préciser (in French)	
<u>AMCO2521</u>	A préciser (in French)	
<u>AMCO2522</u>	A préciser (in French)	
<u>AMCO2523</u>	A préciser (in French)	
<u>AMCO2524</u>	A préciser (in French)	
<u>AMCO2525</u>	Studio 5: Architecture, construction and utilities[60h] (7 credits) (in French)	Benoît Meersseman

Architecture, towns and territory

<u>AMCO2351</u>	Architecture urbaine 1 : la ville et ses parties[22.5h] (2 credits) ☒ (in French)	Christian Gilot
<u>AMCO2451</u>	Architecture urbaine 2 : la ville comme oeuvre collective[22.5h] (2 credits) ⊕ (in French)	Christian Gilot
<u>AMCO2452</u>	A préciser (in French)	
<u>AMCO2453</u>	History of the arts and techniques of the city[22.5h] (2 credits) ▲ (in French)	Christian Gilot
<u>AUCE2970</u>	Sociologie de l'habitat[30h] (3 credits) (in French)	Daniel Bodson

Structure and materials

<u>MECA2100</u>	A préciser (in French)	
<u>AMCO2183</u>	Mechanic of structures[30h+30h] (5 credits) (in French)	Jean-François Remacle
<u>AMCO2031</u>	A préciser (in French)	
<u>AMCO2032</u>	DESIGN OF REINFORCED CONCRETE STRUCTURES[22.5h+22.5h] (4 credits) (in French)	Jean-François Cap

Construction works

<u>AMCO2171</u>	A préciser (in French)	
<u>AMCO2172</u>	A préciser (in French)	
<u>AMCO2173</u>	A préciser (in French)	
<u>AMCO2382</u>	Architectural construction 2 (the exterior envelope)[22.5h] (2 credits) ▲ (in French)	N.
<u>AMCO2383</u>	A préciser (in French)	
<u>AMCO2384</u>	Interstitial exercises for Studio 5 (orientation: structures and technology[30h] (3 credits) (in French)	Nicolas Van Oost
<u>AMCO2385</u>	Architectural construction 4 (Finishes, utilities)[22.5h] (2 credits) (in French)	Philippe Gruloos
<u>AMCO2388</u>	Project management - office management[15h] (2 credits) ☒ (in French)	Nicolas Van Oost
<u>AMCO2389</u>	The construction industry and building specifications[15h] (2 credits) ⊕ (in French)	Nicolas Van Oost

Applied Physics, climate, equipment, sustainable development

<u>AMCO2361</u>	A préciser (in French)	
<u>AMCO2362</u>	A préciser (in French)	
<u>AMCO2495</u>	Hydraulique urbaine[15h+15h] (2 credits) (in French)	Yves Zech
<u>AMCO2363</u>	Building physics II: utilities - Part A: design - Part B: dimensioning[45h+15h] (4 credits) (in French)	Magali Bodart, Jacques Claessens, Jean-Claude Samin, Jean-Marie Seynhaeve
<u>AMCO2364</u>	Interstitial exercises for Studio 5 (orientation: climate and sustainable development)[15h] (2 credits) (in French)	André De Herde

Complementary modules**Conception and composition**

<u>AMCO2344</u>	Programming for large-scale projects[15h] (2 credits) (in French)	Nicolas Van Oost
<u>AMCO2345</u>	Architectural theory seminar[30h] (3 credits) ⊕ (in French)	David Vanderburgh
<u>AMCO2526</u>	Studio 6a: Architecture of the edifice, orientation: design and composition[60h] (10 credits) (in French)	Marc Belderbos

Architecture, towns and territory

<u>AUCE2940</u>	Morphologie urbaine et analyse des paysages[45h] (4.5 credits) (in French)	Bernard Declève, Rosanna Forray, Jean-Pol Van Reybroeck
<u>AUCE2930</u>	Processus territoriaux et modèles de développement[30h] (3 credits) (in French)	Marie-Laurence De Keersmaecker, Yves Hanin, Frédéric Lapeyre
<u>AMCO2527</u>	Studio 6b: Architecture of the edifice, orientation: architecture, the city, the territory[60h] (10 credits) (in French)	Olivier Masson

Structure and technology

<u>AMCO2186</u>	Design and realisation of structure[45h] (4 credits) (in French)	Eli Schmit
<u>AMCO2528</u>	Studio 6c: Architecture and construction of the edifice, orientation: structures and technology[60h] (10 credits) (in French)	Denis Zastavni

Applied Physics, climate, equipment, sustainable development

<u>AMCO2365</u>	Building physics III: Part A: Architecture and sustainable development, Part B: Advanced utilities[30h+15h] (4 credits) ⊕ (in French)	André De Herde
<u>AMCO2529</u>	Studio 6d: Architecture of the edifice, orientation: climate and sustainable development[60h] (10 credits) (in French)	André De Herde, Jean Stillemans

Options

Each student will be required to follow 90 hours of option orientations and 120 hours of free options spread over the 2nd and 3rd year of the programme.

Option orientations

The 90 hours will be taken in the subject chosen as an orientation as from the 4th quadrimester, from among the following courses :

Conception and composition

The list is established each year by the programme management committee.

Architecture, towns and territory

The list is established each year by the programme management committee.

Structure and technology

<u>MECA2510</u>	A préciser (in French)	
<u>AMCO2185</u>	DESIGN OF PRESTRESSED CONCRETE STRUCTURES[22.5h+15h] (3 credits) (in French)	Jean-François Cap
<u>AMCO2187</u>	Project of structures[60h] (4 credits) (in French)	Jean-François Remacle
<u>AMCO2188</u>	Dynamique des structures[30h+30h] (5 credits) (in French)	Jean-Pierre Coyette, David Johnson
<u>AMCO2386</u>	Conception de l'architecture avec le bois[22.5h] (2 credits) (in French)	Olivier Henz
<u>AMCO2387</u>	Architecture civile (Rénovation, restauration et technologie de l'architecture)[15h] (2 credits) (in French)	André Loits

Applied Physics, climate, equipment, sustainable development

<u>BIOL1210</u>	A préciser (in French)	
<u>ENVI3007</u>	Renewable energies[30h] (4 credits) (in French)	André De Herde, Patrick Gerin (coord.), Jean-François Ledent
<u>SEHY3206</u>	Contrôle des facteurs physiques d'ambiance[30h] ▲ (in	N.

ELEC2680 French)
Lighting and photometry[15h+15h] (3 credits) (in N.
French)

Free options

The 120 hours will be chosen from among the courses offered on other FSA programmes or by other faculties. The choice suggested by the student will be submitted to the programme Management Committee for approval.

Language course

During the second cycle, the students may follow various language courses organised by the ILV. These courses represent at least 30 hours (3 credits) of the total volume of the optional part of their programme. A specific course, aimed at improving the language skills linked to their professional interactive communicative capabilities, is especially organised for the FSA students.

ANGL2470 English communication skills for engineers[30h] (3 credits) Ahmed Adriouèche, Henri November, Severine Schmit

ATHENS courses

The European network, ATHENS, organises two sessions a year of intensive courses (in November and March). These courses are recognised by the Faculty as normal options. They feature on the student's programme just like courses with a certain volume of hours (22.5 hours - 15 hours) to the value of 2 credits.

Apprenticeship

The students are invited to carry out a period of apprenticeship for a minimal length of three weeks during their second study cycle. This apprenticeship represents 3 credits (30 hours) in the overall calculation of the volume of their programme. It needs to be given prior approval by the relevant person on the programme Management Committee and will conclude with a report. It will be ratified by an evaluation indicating that the student "has satisfied/has not satisfied the requirements".

End of course project

The end of course project consists of an architectural and/or town planning project, the theme of which will relate to the orientation chosen as from the 4th quadrimester. It may also consist of a theoretical, experimental or critical study from the orientations on offer.

2. Programmes per study year**ARCH 21 First year****First quadrimester**

MECA2901 A préciser (in French)
The "civil architect-engineering" students will only follow part A [22.5 hours + 22.5 hours] (3.5 ECTS)

AMCO2371 A préciser (in French)
AMCO2374 A préciser (in French)
AMCO2521 A préciser (in French)
AMCO2522 A préciser (in French)
AMCO2171 A préciser (in French)
AMCO2172 A préciser (in French)
AMCO2382 Architectural construction 2 (the exterior envelope)[22.5h] (2 N. credits) (in French)

AMCO2383 A préciser (in French)
AMCO2361 A préciser (in French)
AMCO2347 A préciser (in French)

Second quadrimester

BIR1311 Thermodynamics[30h+15h] (3.5 credits) (in French) Yann Bartosiewicz

AMCO2341 A préciser (in French)
AMCO2350 A préciser (in French)
AMCO2372 A préciser (in French)
AMCO2523 A préciser (in French)
AMCO2524 A préciser (in French)
AMCO2452 A préciser (in French)
AMCO2453 History of the arts and techniques of the city[22.5h] (2 credits) (in French) Christian Gilot

MECA2100 A préciser (in French)
AMCO2031 A préciser (in French)
AMCO2173 A préciser (in French)
AMCO2362 A préciser (in French)

ARCH 22 Second year

First quadrimester

<u>MECA2120</u>	Introduction to finite element methods.[30h+30h] (5 credits) (in French)	Vincent Legat
<u>AMCO2343</u>	Design Mechanisms[15h] (2 credits) (in French)	Nicolas Van Oost
<u>AMCO2347</u>	A préciser (in French)	
<u>AMCO2525</u>	Studio 5: Architecture, construction and utilities[60h] (7 credits) (in French)	Benoît Meersseman
<u>AMCO2351</u>	Architecture urbaine 1 : la ville et ses parties[22.5h] (2 credits) ☒ (in French)	Christian Gilot
<u>AMCO2451</u>	Architecture urbaine 2 : la ville comme oeuvre collective[22.5h] (2 credits) ⊕ (in French)	Christian Gilot
<u>AMCO2183</u>	Mechanic of structures[30h+30h] (5 credits) (in French)	Jean-François Remacle
<u>AMCO2032</u>	DESIGN OF REINFORCED CONCRETE STRUCTURES[22.5h+22.5h] (4 credits) (in French)	Jean-François Cap
<u>AMCO2382</u>	Architectural construction 2 (the exterior envelope)[22.5h] (2 credits) ▲ (in French)	N.
<u>AMCO2383</u>	A préciser (in French)	
<u>AMCO2384</u>	Interstitial exercises for Studio 5 (orientation: structures and technology[30h] (3 credits) (in French)	Nicolas Van Oost
<u>AMCO2363</u>	Building physics II: utilities - Part A: design - Part B: dimensioning[45h+15h] (4 credits) (in French)	Magali Bodart, Jacques Claessens, Jean-Claude Samin, Jean-Marie Seynhaeve
<u>AMCO2364</u>	Interstitial exercises for Studio 5 (orientation: climate and sustainable development)[15h] (2 credits) (in French)	André De Herde

Second quadrimester

<u>AMCO2341</u>	A préciser (in French)	
<u>AMCO2346</u>	Philosophical and aesthetic approaches to architecture[22.5h] (2 credits) ☒ (in French)	Jean Stillemans
<u>AMCO2350</u>	A préciser (in French)	
<u>AMCO2349</u>	Contemporary questions in architectural theory[22.5h] (2 credits) ⊕ (in French)	David Vanderburgh
<u>AMCO2373</u>	Design drawing: Manual[30h] (3 credits) (in French)	Gérard Dutry
<u>AMCO2385</u>	Architectural construction 4 (Finishes, utilities)[22.5h] (2 credits) (in French)	Philippe Gruloos
<u>AMCO2388</u>	Project management - office management[15h] (2 credits) ☒ (in French)	Nicolas Van Oost
<u>AMCO2389</u>	The construction industry and building specifications[15h] (2 credits) ⊕ (in French)	Nicolas Van Oost
<u>AMCO2344</u>	Programming for large-scale projects[15h] (2 credits) (in French)	Nicolas Van Oost
<u>AMCO2345</u>	Architectural theory seminar[30h] (3 credits) ⊕ (in French)	David Vanderburgh
<u>AMCO2526</u>	Studio 6a: Architecture of the edifice, orientation: design and composition[60h] (10 credits) (in French)	Marc Belderbos
<u>AMCO2527</u>	Studio 6b: Architecture of the edifice, orientation: architecture, the city, the territory[60h] (10 credits) (in French)	Olivier Masson
<u>AMCO2528</u>	Studio 6c: Architecture and construction of the edifice, orientation: structures and technology[60h] (10 credits) (in French)	Denis Zastavni
<u>AMCO2365</u>	Building physics III: Part A: Architecture and sustainable development, Part B: Advanced utilities[30h+15h] (4 credits) ⊕ (in French)	André De Herde
<u>AMCO2529</u>	Studio 6d: Architecture of the edifice, orientation: climate and sustainable development[60h] (10 credits) (in French)	André De Herde, Jean Stillemans

ARCH 23 Third year

First quadrimester

<u>AMCO2591</u>	Législation du bâtiment et éléments du droit industriel[22.5h] (2 credits) (in French)	Pierre Nihoul
<u>FSA2300</u>	Religious Science Questions[15h] (2 credits) (in French)	Bernard Van Meenen
<u>AMCO2351</u>	Architecture urbaine 1 : la ville et ses parties[22.5h] (2 credits) ☒ (in French)	Christian Gilot
<u>AMCO2451</u>	Architecture urbaine 2 : la ville comme oeuvre collective[22.5h] (2 credits) ⊕ (in French)	Christian Gilot
<u>AUCE2940</u>	Morphologie urbaine et analyse des paysages[45h] (4.5 credits) (in French)	Bernard Declève, Rosanna Forray, Jean-Pol Van Reybroeck
<u>AMCO2186</u>	Design and realisation of structure[45h] (4 credits) (in French)	Eli Schmit
<u>AMCO2495</u>	Hydraulique urbaine[15h+15h] (2 credits) (in French)	Yves Zech

Second quadrimester

<u>AMCO2349</u>	Contemporary questions in architectural theory[22.5h] (2 credits) ⊕ (in French)	David Vanderburgh
<u>AMCO2346</u>	Philosophical and aesthetic approaches to architecture[22.5h] (2 credits) ☒ (in French)	Jean Stillemans
<u>AMCO2345</u>	Architectural theory seminar[30h] (3 credits) ⊕ (in French)	David Vanderburgh
<u>AMCO2388</u>	Project management - office management[15h] (2 credits) ☒ (in French)	Nicolas Van Oost
<u>AUCE2970</u>	Sociologie de l'habitat[30h] (3 credits) (in French)	Daniel Bodson
<u>AMCO2389</u>	The construction industry and building specifications[15h] (2 credits) ⊕ (in French)	Nicolas Van Oost
<u>AMCO2365</u>	Building physics III: Part A: Architecture and sustainable development, Part B: Advanced utilities[30h+15h] (4 credits) ⊕ (in French)	André De Herde
<u>FILO1180</u>	A préciser (in French)	

Evaluation

The architectural projects during the 3 study years and the end of course project are evaluated by a jury. The courses conclude with a written or oral exam.