

Faculty of Applied Sciences



ARCH1BA Baccalauréat en sciences de l'ingénieur, orientation ingénieur civil architecte (Bachelors of Engineering Sciences, orientation : Architect - Engineer)



Study objectives

The Bachelor's of Engineering Sciences : Architect - Engineer, consists of foundation studies in the basic disciplines in which the architect engineer needs to acquire theoretical and practical skills. It provides an initiation and initial instruction in subjects which will be studied in depth and consolidated during the master's programme in Engineering Sciences : Architect - Engineer. The function of the architect - engineer is clearly defined from the outset of the bachelor's programme. It is characterised by three key features :

- the architect - engineer is a "generalist" architect (capable of intervening on every level of inhabited environments : territories, landscapes, towns and buildings), whose engineering skills are particularly developed (construction technologies and building physics)
- the architectural design studio is important in the programme both on a quantitative and a qualitative level, (ongoing practical work for which the student is responsible; active pedagogical tools ; the place where different kinds of working experience come together)
- the courses relating to the "physical conditions" and the "cultural conditions" which govern the milieu where architectural practices are carried out guarantee the overall balance of the programme and call upon both the Human Sciences and the Exact Sciences.

Evaluation

In the design studio and for some course-related activities, students are closely accompanied in their studies throughout the whole process so as to situate themselves appropriately in individual and group work and make any necessary adjustments. In addition, they are evaluated during the course of the quadrimester and yet again at the end of the quadrimester in each of the given subjects to ascertain whether they are meeting the demands of the programme and have successfully completed the modules concerned.

Admission to the programme

The conditions and usual admission requirements are specified on the web-page "Access to studies" :
<http://www.ucl.ac.be/etudes/libres/en/acces.html>

Specific admission conditions

Admission to the bachelor's of Applied Sciences, throughout the French-speaking Community of Belgium (CFWB), is subject to passing a special entrance exam. This is a legally required condition.

This exam is organised in each of the 4 faculties of Applied Sciences within the French-speaking Community and entitles access to any of these 4 faculties, irrespective of where the exam was taken.

It consists of a section on mathematics and a general section. The mathematics section comprises analysis, algebra, trigonometry and numerical calculations, geometry and analytical geometry. The general section comprises written and oral tasks in French, physics, chemistry, biology, geography, history and a second language chosen by the student from among Dutch, English, German or Latin. The students who fulfil the general entrance requirements for the first cycle of studies are granted dispensation from subjects other than mathematics. Details on programme content as well as on the conditions of dispensation from being orally tested on "non-mathematical" subjects can be obtained on demand, at the reception of the Faculty. The mathematics section helps to assess the assimilation of the 6 hour a week programme covered during the previous two years of secondary school. To be able to pass this exam, reinforcement in maths during the last year of secondary school is a usual necessity.

Apart from its legal aspect, the entrance exam enables the students to evaluate the knowledge acquired from their studies at secondary school. Preparation thereof is often the starting point for reflection on study choices and on the amount of effort needed to undertake the studies envisaged. Complementary information on this exam may be obtained under the heading "Admission" on the UCL Faculty of Applied Sciences web-site (<http://www.fsa.ucl.ac.be>) or via the email address: admission@fsa.ucl.ac.be.

Applications for admission, special rules and regulations

Enrolments for the entrance exam are accepted beginning on Information Day for final- year secondary school students in March, up until 1st June.

Positioning of the programme**Access to the master's in Engineering Sciences : Architect - Engineer**

Within the FSA : the Architect - Engineer orientation is specific right from the first quadrimester. The possibility of progressive orientation or of re-orientation is, therefore, quite limited. The only automatic access possible is to the Architect - Engineer Master's. However, completion of a relevant minor subject could guarantee the student unconditional access to the Master's in Civil Engineering (subject to the required approval of the Diploma Committee for this programme). Access to a different master's organised by the FSA would require a complementary year of studies for the student (60 credits). Reciprocally, access to the Architect - Engineer Master's would require a complementary year (60 credits) for somebody with the degree " Bachelor of Engineering Sciences : Engineering".

International mobility

Mobility within the Faculty of Applied Sciences is a major asset in the context of this study programme. This usually takes place during the 4th or 5th year, i.e. during the master's - level studies. The students are, therefore, strongly encouraged to broaden their communication skills and knowledge of languages. In fact, on obtaining the title "Bachelor of Engineering Sciences" degree from UCL, the student will also be able access the corresponding master's (i.e. in the 4th and 5th years) which exist within the university network called CLUSTER - Consortium Linking Universities of Science and Technology for Education and Research - of which the Faculty is a member. The student will benefit from the same conditions as the other bachelor students from those institutions. This European network covers : UPC - Barcelona / TU-Darmstadt / TU-Eindhoven / INPG-Grenoble / Uni-Karlsruhe / EPFL-Lausanne / Imperial College London / KTH-Stockholm / Politecnico di Torino / UCL-FSA-Louvain-la-Neuve. All member institutions are highly placed in the *Times* ranking of the world's top engineering institutions. In the context of the master's programme in Engineering at UCL, the student also has access to the ensemble of the Erasmus/Socrates exchange programmes in which UCL has participates together with universities from numerous European or extra-European countries, as well as the Catholic University of Leuven (KUL).

Useful contacts**Programme management**

FSA Faculté des sciences appliquées

Academic Supervisor : Jean Stillemans

Contact person : Jean Stillemans

Study Advisor

Jules Simon, tel: 010 47 23 46

jsimon@arch.ucl.ac.be

Exam Jury

President of the jury (per year): Piotr Sobieski

Secretaries of the juries (per year): David Vanderburgh, Jeans Stillemans, Jules Simon

List of accessible minors

- Minor in Theology
- Minor in Philosophy
- Minor in Law
- Minor in Criminology
- Minor in Information and Communication (*)
- Minor in Political Sciences
- Minor in Sociology and Anthropology
- Minor in Human and Social Sciences
- Minor in Economics
- Minor in Business Studies
- Mineure in Linguistics
- Minor in Hispanic Studies(*)
- Minor in Italian Studies (*)
- Minor in French Studies (*)
- Minor in Latin Studies
- Minor in Greek Studies
- Minor in Literature Studies
- Minor in Oriental Studies
- Minor in History
- Minor in Medieval Studies
- Minor in History of Art and Archaeology (*)
- Minor in Musicology

- Minor in Psychology and Education (*)
- Minor in Human Nutrition
- Minor in General Biomedical Sciences
- Minor in Clinical Biomedical Sciences
- Minor in Medication Sciences (*)
- Minor in Physical Activity, Health and Culture of Movement (*)
- Minor in Mathematics
- Minor in Physics
- Minor in Geography
- Minor in Statistics
- Minor in Engineering Sciences : Applied Chemistry and Physics
- Minor in Engineering Sciences : Construction
- Minor in Engineering Sciences : Electricity
- Minor in Engineering Sciences : Applied Mathematics
- Minor in Engineering Sciences : Mechanics
- Minor in Computer Science (*)
- Minor in Bio-engineering
- Minor in Biomedical Engineering
- Minor in Gender Studies
- Minor in Culture and Creation
- Minor in European Studies

(*) *Minor with access criteria*

Programme content

The programme major is composed of a volume of courses representing 150 credits, spread over 3 years.

ARCH 11BA First year of studies

1st quadrimester

<u>AUCE1101</u>	Cross-disciplinary Approaches to Architecture - Anthropology[15h] (2 credits)1q (in French)	Jean Stillemans
<u>AUCE1301</u>	History of Architecture: Antiquity[15h] (2 credits)1q (in French)	Philippe Bragard
<u>AUCE1501</u>	Dessin 1 : Ville et Territoire[60h] (4 credits)1q (in French)	Jean Stillemans
<u>AUCE1502</u>	Drawing 2: Places[60h] (4 credits)1q (in French)	Olivier Bourez
<u>AUCE1701</u>	Construction: structure[30h] (3 credits)1q (in French)	Denis Zastavni
<u>FSAB1101</u>	Mathematics 1[30h+30h] (6 credits)1q (in French)	Philippe Delsarte, Michel Verleysen, Vincent Wertz (coord.)
<u>FSAB1201</u>	Physics 1[30h+30h] (6 credits)1q (in French)	Guy Champion (coord.), Jan Govaerts, Jean-Didier Legat, Charles Trullemans
<u>FSAB1801</u>	Critical History of Science and Technology[15h+15h] (2 credits)1q (in French)	Patricia De Grave, Jacques Riche, David Vanderburgh

2nd quadrimester

<u>AUCE1201</u>	Theory of Architecture 1: Introduction[15h] (2 credits)2q (in French)	David Vanderburgh
<u>AUCE1601</u>	Design Studio I: Landscape and edifice[75h] (4 credits)2q (in French)	David Vanderburgh
<u>AUCE1503</u>	Drawing 3: Composition and compositional techniques[45h] (3 credits)2q (in French)	Frédéric Andrieux
<u>AUCE1702</u>	Construction: materials[30h] (3 credits)2q (in French)	André De Herde
<u>FSAB1102</u>	Mathematics 2[45h+45h] (9 credits)2q (in French)	Camille Debiève, François Glineur, Enrico Vitale (coord.)
<u>FSAB1202</u>	Physics 2[30h+30h] (6 credits)2q (in French)	Guy Champion, Jean-Claude Samin, Piotr Sobieski (coord.)
<u>ARKE1445A</u>	Arts et civilisations : moyen âge (architecture)[15h] (2 credits) ☒ (in French)	N.
<u>ARKE1447A</u>	Arts et civilisations : temps modernes (architecture)[15h] (2 credits) ☒ (in French)	N.
<u>ANGL1871</u>	English : reading comprehension of scientific texts[20h] (2 credits)	N.

For the English courses, a special dispensational test is organised during the first quadrimester of the first year (Test 1 - reading comprehension). If the student passes it, he is exempt from doing the corresponding course activities : he will either take the ANGL1871 exam at the end of the year (2 credits), or he will chose to follow the ANGL1872 course from the first year on (in the second year - 2 credits), or another avanced language course for a minimum of 2 credits, depending on his competence.

ARCH 12BA Second year of studies

1st quadrimester

<u>AUCE1102</u>	Cross-disciplinary Approaches to Architecture 2 : Philosophy [15h][15h] (2 credits)1q (in French)	Jean Stillemans
<u>AUCE1302</u>	History of architecture: contemporary [15h][15h] (2 credits)1q (in French)	Olivier Masson
<u>AUCE1602</u>	Design Studio 2: History and Habitat [60h][60h] (4 credits)1q (in French)	Frédéric Andrieux
<u>AUCE1603</u>	Design Studio 3 : Institution and Edifice [60h][60h] (4 credits)1q (in French)	Nicolas Van Oost
<u>AUCE1801</u>	Construction [30h][30h] (3 credits)1q (in French)	Nicolas Van Oost
<u>FSAB1109</u>	Mathematical structures for spaces[30h+20h] (4 credits)1q (in French)	Yves Félix
<u>FSAB1209</u>	Advanced Statics[15h+10h] (2 credits)1q (in French)	David Johnson (coord.), Jean-Claude Samin
<u>FSAB1203A</u>	Physique 3 A[20h+20h] (3 credits)1q (in French)	Jean-Pierre Raskin, Jean-Claude Samin, Piotr Sobieski
<u>FSAB1104</u>	Numerical methods[30h+30h] (5 credits)1q (in French)	Vincent Legat (coord.), Grégoire Winckelmans

2nd quadrimester

<u>FSAB1802</u>	Philosophy. Introductory Course[15h+15h] (3 credits)2q (in French)	Jean-Michel Counet, Nicolas Monseu (supplée Jean-Michel Counet)
<u>AUCE1202</u>	Theory of Architecture 2: Theories [15h][15h] (2 credits)2q (in French)	Olivier Masson
<u>AUCE1604</u>	Design Studio 4 : City and Edifice [75h][75h] (4 credits)2q (in French)	Christian Gilot
<u>AUCE1504</u>	Drawing 4: Presentation and presentation techniques [45h][45h] (3 credits)2q (in French)	Frédéric Andrieux
<u>ARKE1445A</u>	Arts et civilisations : moyen âge (architecture)[15h] (2 credits) ☒ (in French)	N.
<u>ARKE1447A</u>	Arts et civilisations : temps modernes (architecture)[15h] (2 credits) ☒ (in French)	N.
<u>FSAB1105A</u>	Probabilité et statistiques[15h+10h] (2 credits)2q (in French)	N.
<u>AUCE1171A</u>	Géologie et minéralogie A[20h+15h] (3 credits)2q (in French)	N.
<u>ANGL1872</u>	English: Listening Comprehension[20h] (2 credits)2q	Isabelle Druant, Dominique François, Marie-Aude Lefer, Henri November, Marc Piwnik

For the English language course in the second year, the student will take a special dispensational test in the first quadrimester (Test 2 - listening comprehension). If he passes it, he is exempt from doing the corresponding course activities : he will either take the ANGL1872 exam at the end of the second year (2 credits), or he will choose to follow the ANGL1873 course, from the second year on (in the third year - 2 credits), or another avanced language course for at least 2 credits, depending on his language competence.

Option : minor or option (10 credits)

ARCH 13BA Third year of studies

1st quadrimester

<u>AUCE1103</u>	Interdisciplinary Approaches to Architecture 3 : aesthetics [15h] (2 credits) Semester 1[15h] (2 credits)1q (in French)	Jean Stillemans
<u>AUCE1401</u>	Architecture and the City 1 [15h] (2 credits) Semester 1[15h] (2 credits)1q (in French)	Christian Gilot
<u>AUCE1605</u>	Studio 5 : Architecture, Technology and Sustainable Development [60h] (4 credits)[60h] (4 credits)1q (in French)	Magali Bodart, André De Herde

<u>AUCE1606</u>	Atelier 6 : Orientation Architecture, Ville, Paysage [60h] (4 credits)[60h] (4 credits)1q (in French)	Christian Gilot
<u>AUCE1172A</u>	A préciser (in French)	
<u>MECA1901</u>	Continuum mechanics.[30h+30h] (5 credits)1q (in French)	François Dupret
2nd quadrimester		
<u>FSAB1309</u>	Chimie[30h+20h] (4 credits)2q (in French)	Christian Bailly, Jacques Devaux, Pierre Godard (coord.)
<u>AUCE1203</u>	Théorie de l'architecture 3 : la composition [15h] (2 credits)[15h] (2 credits)2q (in French)	David Vanderburgh
<u>AUCE1402</u>	L'architecture et la ville 2 [15h] (2 credits)[15h] (2 credits)2q (in French)	Christian Gilot
<u>AUCE1607</u>	Atelier 7 : Synthèse [120h] (8 credits)[120h] (7 credits)2q (in French)	Olivier Bourez, Nicolas Van Oost
<u>AUCE1901</u>	Confort et Physique du bâtiment (thermique, acoustique et éclairage)[30h] (2 credits)2q (in French)	Marcelo Blasco, André De Herde, Elisabeth Gratia
<u>ANGL1873</u>	English communication skills for engineers[20h] (2 credits)1q	N.

For the language courses, the student will take a special dispensational test during the first quadrimester (Test 3 - oral expression). If he passes it, he is exempt from doing the corresponding study activities : he will either take the ANGL1873 exam at the end of the third year (2 credits), or he will chose to follow another advanced language course in the third year, for at least 2 credits, depending on his language competence.

Option : minor or option (20 credits).