

Faculty of Economic, Social and Political Sciences



IAG 2M **Maîtrise en sciences de gestion (orientation "méthodes quantitatives de gestion") ("Maîtrise" in Management Sciences (orientation : "quantitative methods in management"))**



Programme management

IAG Département d'administration et de gestion

Responsable académique : Paul Belleflamme

Study objectives

The "maîtrise" programme in Management Sciences (orientation: "quantitative methods") aims to train the future diploma holders in the capacity of analysis and action in the management process, with a strong capacity for quantification and modelling within these processes. The programme puts the focus on the competences in advanced quantitative methods and the carrying out of a quantitative project.

There are two possible orientations : general orientation and CEMS orientation.

The CEMS orientation enables the student to obtain, in addition, and in the context of the three study years of the programme, the CEMS (Community of European Management Schools) MIM. This supplementary diploma is jointly delivered by the schools of European university management which form the "Community of European Management Schools" (CEMS) ; these currently number 17 : Erasmus Universiteit (Rotterdam), ESADE (Barcelona), HEC (Paris), Helsinki School of Economics and BA (FI), IAG (UCL - Louvain-la-Neuve), Università Luigi Bocconi (Milan), Universität zu Köln (Cologne), Copenhagen Business School, Universität St Gallen (CH), London School of Economics, Stockholm School of Economics, Wirtschaftsuniversität Wien, Norwegian School of Economics and Business Administration (Bergen), Budapest University of Economic Sciences (HU), University of Economics Prague, Warsaw School of Economics and University College Dublin (Ireland). In order to obtain this diploma, besides a specific choice of courses in the CEMS orientation, the student will have to acquire an international experience via a six month study stay in a foreign country. (One semester of lectures from the 3rd year in a CEMS school and 10 weeks of work experience abroad) and demonstrate proof of advanced knowledge of 2 foreign languages (information available at the secretary's office)

Admission conditions

This programme is accessible to students coming from the following categories :

1. diploma holders of the first cycle of university studies ("candidature") in Management Sciences or Economic Sciences from a university of the French-speaking Community of Belgium, either because they obtained it at the end of the second year or because they hold another diploma after a single "candidature".
2. diploma holders of a "candidature" in Management Sciences delivered by a Belgian university or holders of a diploma of the *1st university cycle* judged by the Department to offer sufficient basic training. The latter must include subjects which correspond to the following courses :
 - Macroeconomics.
 - Microeconomics
 - Mathematics I and II
 - Statistics in Economics and management
 - Accountancy
 - Analysis of financial states
 - Commercial Law
 - Computer studies in Economics and Management
 - Business English and, either Dutch or German at intermediate level.

It is compulsory for the students who choose this programme to have followed the "quantitative" orientation in the first "candidature" in Economic Sciences and Management.

In the context of the special exams (" passerelles") organised within the French Community of Belgium between the higher non-university level of studies and the university level of studies, the following students have access to the "maitrise" in Management Sciences :

1. holders of a second cycle of university studies (" *licencié* ") in the economic category , subject to the possible adding of complementary courses to their first year programme;
2. holders of a first cycle of university studies diploma (" *candidat* ") in the Economics category as well as in *industrial engineering* , subject to passing an admission exam and possibly adding a limited number of complementary courses to their first year programme (maximum : 150 hours);
3. holders of a higher non-university " *gradué* " diploma in accountancy, marketing, insurances, transport management, external commerce or in computing studies, as well as those with a teacher-training certificate in the Economics category in lower secondary school years.

Diploma holders in higher non-university studies of a non-economic category have access to the maitrise in management sciences on the basis of a "candidat" certificate in a management sciences or a "candidat" in Economic Sciences and management, which may be obtained in certain cases on the basis of a single "candidature" year.

Applications and requests for complementary information should be addressed to the secretary's office of the Department of Administration and Management.

Applications and requests for information linked to the *single candidature* should be addressed to the secretary's office for the "Candidature" in Economic Social and Political Sciences.

Admission procedure

The admission and enrolment procedures for the University are detailed under the "General Information" section of the WEB page : <http://www.ucl.ac.be/etudes/programme.html>

General structure of the programme

- 1st year : introduction to the functions of management (finance, marketing, general management, human management, operations management) and the related techniques and disciplines (advanced quantitative methods, operational research, computer studies, languages), grouped into 8 domains.
- 2nd year : on the one hand the integration of the knowledge and methods partly via an important quantitative project and, on the other hand, focus on opening up horizons by means of a compulsory exchange semester.
- 3rd year : intensification of studies via two study branches (from a choice of 11, such as human resources and organisations, company finance, market finance and financing institutions, audits and controls, environment, Logistics and Supply Chain Management, in-depth operational marketing, in-depth marketing strategies and innovation, information systems, European strategic management) and contact with the field, thanks to an apprenticeship-project.

Programme content

IAG 21M First year of studies

The volume of work is expressed in terms of Credits : 1/3 of the volume represents the course attendance time, for 2/3 of the individual pieces of work or supervised group work.

Compulsory courses

One or two compulsory courses may be given in English.

<u>INGE1311</u>	Finance[45h+15h] (6 credits) (in French)	Philippe Grégoire
<u>INGE1312</u>	Production and Operations Research[45h+15h] (6 credits) (in French)	Per Joakim Agrell, Philippe Chevalier, Pierre Semal
<u>INGE1313</u>	The Theoretical Foundations of Management[45h+15h] (6 credits) (in French)	Paul Belleflamme, Matthieu de Nanteuil-Miribel
<u>INGE1321</u>	Marketing[45h+15h] (6 credits) (in French)	Chantal de Moerloose
<u>ECGE1321</u>	Human Management[45h+15h] (6 credits) (in French)	Patrice Gobert, Armand Spineux
<u>ECGE1220</u>	Management Computer Science and Information Systems[45h+15h] (5 credits) (in French)	Manuel Kolp, Alain Pirotte, Jean Vanderdonckt
<u>INGE1314</u>	Technological Research and Development[80h] (8 credits) (in French)	Anne-Marie Anckaert, Pierre Godard, Hervé Jeanmart, David Johnson, Benoît Macq, Bernard Nysten
<u>INGE1222</u>	Multivariate Statistical Analysis[30h+15h] (4 credits) (in French)	Léopold Simar, François Vandenhende (supplée Léopold Simar)
Two language courses (7.5 Credits)		
<u>ANGL1532</u>	Advanced Business English[60h] (5 credits)1+2q	Dominique François, Philippe Neyt, Henri November, Colleen Starrs, Françoise Stas, Albert Verhaegen
<u>NEER1532</u>	Advanced Dutch for Business Studies[60h] (4 credits)1+2q	Christel Vandegoor (coord.)
or		
<u>ALLE1532</u>	German business language[60h] (3 credits)1+2q	N.

A one week period of work experience which must be carried out before registering for a full exam session.

IAG 22M Second year of studies

General orientation

Compulsory courses

One or two compulsory courses may be given in English.

<u>POGE2201</u>	Strategic and International Business Management[90h] (10 credits) (in French)	Régis Coeurderoy, André de Béthune, Marcel Gérard, Alain Vas
<u>CMPT2201</u>	Control management[45h] (5 credits) (in French)	Yves De Rongé, Thierry Muschang
<u>POGE2203</u>	Qualitative and Quantitative Data Analysis[45h] (5 credits) (in French)	Marie-Paule Kestemont, Marco Saerens (supplée Marie-Paule Kestemont), Alain Vas, Alain Vas (supplée Marie-Paule Kestemont)
<u>POGE2202</u>	Project Management[45h] (5 credits) (in French)	Philippe Chevalier, Jean Raucent, Pierre Semal
<u>QANT2202</u>	Quantitative project[65h] (10 credits) (in French)	Yves Pochet

Exchange programme abroad (25 Credits)

The students must carry out the second quadrimester of their second year of studies (IAG 22M) in one of the following foreign universities :

- Europe: Budapest University of Economic Sciences (H), Copenhagen Business School (DK), Erasmus Universiteit Rotterdam (NL), Helsinki School of Economics and BA (FI), London School of Economics (GB), Norwegian School of Economics and BA (Bergen) (N), Prague University of Economics (CZ), Stockholm School of Economics (S), Warsaw School of Economics (PL), Universität zu Köln (D), Universität St Gallen (CH), Wirtschaftsuniversität Wien (A) Esade (E), Università Bocconi (I), HEC-Paris (F), University College Dublin (IRL) ;
- In English : University of Cincinnati (OH), Clemson University (SC), University of Texas at Austin, University of North Carolina (Chapel Hill, NC), Georgetown University (Washington D.C.), McGill University (Montréal), Queen's University (Kingston), University of Western Ontario (London-Ont.), Université Laval (Québec), National University of Singapore, Nanyang University (SG), Yonsei University (Seoul-KR), Osaka University, Sophia University (Tokyo), University of Macau, Thammasat University (Thailand), Kyoto University (Japon), Institute of Management Lucknow (India), University of Witwatersrand (Johannesbourg), University of Otago (NewZealand), Helsinki University of Technology (FI), Lappeenranta University of Technology (FI), Tampere University of Technology (FI), Linköping Institute of Technology (S), Trondheim University of Technology (NO), University of Manchester (GB) ;
- In Dutch : T U Eindhoven (NL), University of Twente (NL), Katholieke Universiteit Leuven (B) ;
- In Spanish : ICADE (E), EAFIT (Colombia), ESAN (Lima) (PE), ITAM (Mexico), ITESM (Mexico), Universidad Católica de Chile (Santiago), Universidad Adolfo Ibanez (Santiago) (CL) ;
- In Italian : Università Bocconi (I), Politecnico di Torino (I) ;
- In German : Technische Hochschule Darmstadt (D), Universität Karlsruhe (D).

CEMS orientation (Community of European Management Schools)

The students will follow the programme for general orientation, IAG22M, but since they spend one quadrimester abroad in year 23, they will replace the exchange semester IAG22M by a branch of studies to intensify the year IAG23M.

IAG 23M Third year of studies

General orientation

Two branches of intensification (15 Credits per branch) to be chosen from between :

<u>IAG3010</u>	"Filière" Human resources and organisation[90h] (15 credits) (in French)	Nathalie Delobbe, Evelyne Léonard, Thomas Périlleux
<u>IAG3020</u>	"Filière" Corporate Finance[90h] (15 credits) (in French)	Luc Henrard, Michel Levasseur, Armin Schwienbacher
<u>IAG3030</u>	Financial markets and institutions[90h] (15 credits) (in French)	Nihat Aktas, Christophe Dispas (supplée Nihat Aktas), Philippe Grégoire, Luc Henrard, Michel Levasseur
<u>IAG3040</u>	Track "Audit and Control"[90h] (15 credits) (in French)	Yves De Rongé, Michel De Wolf, Catherine Dendaaw, Thierry Muschang, Robert Peirce, Patrice Schumesch
"Environment branch" (this branch is composed of the three following courses :)		
<u>FSA2245</u>	Environnement et entreprise[30h] (3 credits)2q (in French)	Thierry Bréchet
<u>IAG3051</u>	Management environnemental[30h] (15 credits) (in French)	Daniel Tyteca
<u>ESPO2104</u>	Séminaire de gestion des questions environnementales[30h]	Thierry Bréchet

<u>IAG3060</u>	(5 credits) (in French) Filière Logistics and Supply Chain Management[90h] (15 credits) (in French)	Per Joakim Agrell, Philippe Chevalier, Etienne Loute, Yves Pochet, Pierre Semal
<u>IAG3070</u>	Filière Marketing opérationnel approfondi[90h] (15 credits) (in French)	Ruben Alberto Chumpitaz Caceres, Ruben Alberto Chumpitaz Caceres (supplée Marie-Paule Kestemont), Jacques François, Jacques François (supplée Marie-Paule Kestemont), Marie-Paule Kestemont, Isabelle Schuiling
<u>IAG3080</u>	Filière Marketing stratégique approfondi[90h] (15 credits) (in French)	Chantal de Moerloose, Claudine Laperche, Paul Pellemans, Valérie Swaen
<u>IAG3090</u>	"Filière" Strategy and innovation[90h] (15 credits) (in French)	Paul Belleflamme, Benoît Gailly
<u>IAG3100</u>	Filière Systèmes d'information[90h] (15 credits) (in French)	Manuel Kolp, Alain Pirotte, Marco Saerens, Jean Vanderdonckt
Strategic European Management Branch :		
<u>ECAP2210</u>	Politiques économiques européennes[30h] (5 credits) (in French)	Pierre Defraigne
<u>POGE2230</u>	Corporate strategy in the European context[30h] (5 credits) (in French)	André de Béthune
<u>CEMS2305</u>	Legal Aspects of international Business Management[30h] (5 credits) (in French)	Philippe Malherbe
<u>IAG3111</u>	Séminaire d'intégration[15h] (in French)	Régis Coeurderoy
One course of Religious Sciences to be chosen from between [2 Credits] :		
<u>ESPO2201</u>	Issues of religious sciences: Christian faith[15h] (2 credits) (in French)	Jean-François Grégoire (supplée Gabriel Ringlet), Gabriel Ringlet
<u>ESPO2202</u>	Issues of religious sciences: the Bible and its message[15h] (2 credits) (in French)	Jean-Pierre Delville
<u>ESPO2203</u>	Special issues of religious sciences: the Christian ethic[15h] (2 credits) (in French)	Walter Lesch
A period of work experience		
A thesis-project (24 Credits)		
Seminars for the work experience and thesis		
<u>IAG3001</u>	Questions over the economic and managerial actuality[30h] (4 credits) (in French)	Philippe Wilmes
<u>IAG3002</u>	Séminaire de suivi du stage et mémoire[30h] (4 credits) (in French)	Matthieu de Nanteuil-Miribel, Thomas Périlleux
CEMS orientation (Community of European Management Schools)		
Six courses to be chosen from among :		
<u>CEMS2301</u>	Supply Chain Modelling and management[30h] (5 credits) (in French)	Per Joakim Agrell, Pierre Semal
<u>CEMS2302</u>	International Management of Human Resources[30h] (5 credits) (in English)	Marc Fourny
<u>CEMS2303</u>	Cross-cultural Competence and Management in Europe[30h] (5 credits) (in French)	N.
<u>CEMS2304</u>	International Financial Management[30h] (5 credits) (in French)	Patrick Zurstrassen
<u>CEMS2305</u>	Legal Aspects of international Business Management[30h] (5 credits) (in French)	Philippe Malherbe
<u>CEMS2311</u>	Management and Financing of technological Innovation[30h] (5 credits) (in French)	Benoît Gailly
<u>CEMS2312</u>	E-Management[30h] (5 credits) (in French)	Olivier de Broqueville, Anne-Cécile Jeandrain
<u>POGE2230</u>	Corporate strategy in the European context[30h] (5 credits) (in French)	André de Béthune
One course of Religious Sciences to be chosen from among [3 Credits] :		
<u>ESPO2201</u>	Issues of religious sciences: Christian faith[15h] (2 credits) (in French)	Jean-François Grégoire (supplée Gabriel Ringlet), Gabriel Ringlet
<u>ESPO2202</u>	Issues of religious sciences: the Bible and its message[15h] (2 credits) (in French)	Jean-Pierre Delville

ESPO2203 Special issues of religious sciences: the Christian ethic[15h] Walter Lesch
(2 credits) (in French)

A "Blocked seminar" (2 Credits)

One week's intensive seminar given by the lecturers of the different CEMS schools.

A "Business project" (11 Credits)

Analysis, in group, of a company case study.

A Thesis-project (18 Credits)

One semester of the year will be completed in exchange with a CEMS partner school abroad where the student will follow part of the above programme.

Positioning of the degree within the University cursus

The diploma for the "maîtrise" in Management Sciences entitles access, in the case of passing with distinction - students may apply for a special dispensation with regard to the grade - to all the 3rd cycle specialisation in management courses : the DES in Economics and Management (ECGE 3DS), Management orientations, Computing studies in Management or Financial Economics, or to the third study cycle in Management which prepares for PhD research : the DEA in Economics and Management (ECGE 3DA). Furthermore, this diploma also entitles access to all the masters' programmes of the 2nd cycle for 60 Credits organised in 1 year of the Faculty of Economic, Social and Political Sciences, and from certain other Faculties.