

## Faculty of Economic, Social and Political Sciences



### ACTU2MS Master en sciences actuarielles, à finalité spécialisée (Master of Actuarial Sciences, leading to specialisation )



#### Programme management

IAG Département d'administration et de gestion

#### Study objectives

The objective of the Master's programme of Actuarial Sciences is to train actuaries. The programme comprises 2 years of studies (120 credits) at the end of which the degree will entitle access to the Recognition Office of the Royal Association of Belgian Actuaries (ARAB). The title will also be required by the Insurance Control Office (OCA) for the function of "designated actuary".

#### Admission conditions

The master of Actuarial Sciences, leading to specialisation, is accessible to full university graduates (or bachelors), or those holding a master's degree in Physical Sciences, Mathematical Sciences, Economic Sciences, Applied Economic Sciences or Management Sciences, Civil Engineering, Commercial Engineering or Management Engineering. Admission applications from students holding an equivalent degree may be requested and will be examined on a case by case basis.

#### Admission procedures

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

Applications for the programme must be introduced in writing to the secretary's office of the IAG in accordance with the procedures defined by the University and the Institute.

#### General structure of the programme

The programme comprises 120 credits, spread equally over 2 years of study.

It is composed of :

- a core syllabus (90 credits) including compulsory courses (37 credits), options (15 credits), complementary courses (15 credits), an apprenticeship period in a firm ( 8 credits) and a thesis (15 credits)
- a specialisation (30 credits)

#### Programme content

##### Core syllabus (90 credits)

<u>ACTU2111</u>	Non life Insurance I[30h+15h] (4.5 credits) (in French)	Antoine Delwarde (supplée Michel Denuit), Antoine Delwarde (supplée Michel Denuit), Michel Denuit
<u>ACTU2121</u>	Life insurance[30h] (4.5 credits) (in French)	Pierre Devolder, Françoise Gilles
<u>ACTU2130</u>	Mathematics of financial markets[45h] (4.5 credits) (in French)	Pierre Devolder
<u>ACTU2140</u>	Social security and pension funds[30h+15h] (4.5 credits) (in French)	Pierre Devolder
<u>DESO3112</u>	Théorie générale de la fiscalité en rapport avec l'assurance et les services financiers[15h] (4.5 credits) (in French)	Jacques Autenne
<u>DPRI2323</u>	Insurance Law[30h] (4.5 credits) (in French)	Bernard Dubuisson
<u>DPRI3104</u>	Problèmes économiques et financiers de l'assurance[30h] (5 credits) (in French)	Christian Jaumain
<u>DPRI3111</u>	Séminaire de problèmes économiques et financiers de l'assurance[30h] (in French)	Christian Jaumain

**Options (15 credits)**

<u>IAG3030A</u>	Portfolio and investment analysis[30h] (5 credits) (in French)	N.
<u>IAG3030B</u>	Options, futures and derivatives[30h] (5 credits) (in French)	N.
<u>IAG3030C</u>	Financial Management of banks I[30h] (5 credits) (in French)	N.
<u>DPRI3105</u>	Gestion des risques[30h] (5 credits) (in French)	Daniel Bertaux
<u>DPRI3102</u>	Droit des accidents du travail[15h] (2.5 credits) (in French)	Daniel de Callatay
<u>DPRI3101</u>	Distribution de l'assurance[15h] (2.5 credits) (in French)	Patrick Wéry
<u>STAT3210</u>	Resampling methods with applications[30h] (5 credits) (in English)	Cédric Heuchenne (supplée Léopold Simar), Léopold Simar

**Complementary courses (15 credits)**

*To be determined in accordance with the student :*

For the students with an orientation in Economics : 15 credits of complements in Statistics

For the students with an orientation in Mathematics : 15 credits in Economics, Accountancy and Law

**Apprenticeship in a firm or in a research unit at UCL (8 credits)****Thesis (15 credits)****Specialisation (30 credits)**

<u>ACTU2122</u>	Additional life insurance components[30h] (3 credits) (in French)	Michel Denuit
<u>ACTU2123</u>	Non life Insurance II[30h] (4.5 credits) (in French)	Michel Denuit
<u>ACTU2124</u>	Reinsurance[30h] (4.5 credits) (in French)	Jean-François Walhin
<u>ACTU2152</u>	Stochastic calculus with application to finance and insurance I[30h] (4.5 credits) (in French)	Pierre Devolder
<u>ACTU3811</u>	Financial management of insurance companies[30h+15h] (5.5 credits) (in French)	Céline Azizieh
<u>ACTU3812</u>	Life related insurance[30h] (4.5 credits) (in French)	Michel Denuit
<u>ACTU3813</u>	Stochastic calculus with application to finance and insurance 2[30h] (4.5 credits) (in French)	Pierre Ars, Pierre Devolder
<u>ACTU3810</u>	Marketing of financial and insurance companies[15h] (2.5 credits) (in French)	Roland Saintrond

**Evaluation**

The thesis is presented before a jury composed of the director of the thesis and the academic reporter. The report of the work placement is also presented before a jury composed of the work placement supervisor, the study promoter and the academic reporter.

**Positioning of the degree within the University cursus**

The Master of Actuarial Sciences entitles access, upon successful completion with the right grade, to the doctoral programme of Actuarial Sciences.