



what is
the real value
of risk?

Master of science in Actuarial science

GENERAL OUTLINE

Objectives

This Master's degree offers a complete basic education for future actuaries.

Most of the subjects taught involve applied mathematics, the actuary's most important working tool. Good knowledge of management, finance, economics and information technology are also necessary to ensure an adequate level of professional expertise.

This programme fulfils the requirements of the syllabus of the Swiss Association of Actuaries and prepares students to some exams of the Society of Actuaries.

Skills development and career prospects

University studies develop, in addition to specific academic skills, a great many transverse skills such as: oral and written communication, critical, analytical and summarising faculties, abilities in research, the learning and transmission of knowledge, independence and the ability to make judgments in the field of specialisation and overlapping areas.

This panoply of skills, combined with specialist knowledge acquired in the course of studies, is excellent preparation for a wide range of employment opportunities and economic sectors. The following career prospects may be cited as an example:

- Insurance companies
- Banks
- Consultants
- Pension funds
- Control authorities
- Social security systems



Subject to changes
only the official texts are authentic
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www.unil.ch/masters

GENERAL INFORMATION

Organiser

HEC Lausanne:
www.hec.unil.ch
Department of Actuarial Science (DAS)

Degree awarded

Maîtrise universitaire ès Sciences
en sciences actuarielles
Master of Science (MSc)
in Actuarial Science

ECTS credits

120

Duration

4 semesters

Teaching language

English

Enrolment

The candidate's application must be submitted to the Admissions Department before the final date.
www.unil.ch/immat

Contact

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EDUCATIONAL CONTENT

Description

From the first to the third semester, students follow compulsory and optional courses in the main areas of actuarial science.

The fourth semester is dedicated to writing a Master thesis or an internship dissertation.

Examinations

Examinations on all taught subjects are held at the end of each semester.

Mobility

During their third semester, students may study in a university recognised by UNIL, under a mobility exchange programme. They may get a maximum of 30 credits in another institution.

The prior authorisation of the Master's Committee is required for the recognition of credits earned abroad.

SYLLABUS

1st semester

Compulsory courses

- Probability and Stochastic Processes
- Quantitative Methods for Actuaries
- Actuarial Modelling: an Introduction
- Mathematics of Compound Interest
- Principles of Finance

24 ECTS credits

Options programme

- Computational Tools for Actuaries
- Financial Accounting

6 ECTS credits

2nd semester

Compulsory courses

- Life Contingencies I
- Risk Theory
- Loss Models
- Health and Life Insurance
- Social Insurance
- International Social Protection:
Actuarial Practice and Policy Analysis I

27 ECTS credits

Options programme

- Analyse, modélisation et conception
- Financial Risk Management
- Health Economics
- Advanced Probability
- Investment

3 ECTS credits

3rd semester

Compulsory courses

- Life Contingencies II
- Credibility Theory
- Life Insurance Actuarial Controlling
- Actuarial Modelling
- International Social Protection:
Actuarial Practice and Policy Analysis II
- Asset Pricing

24 ECTS credits

Options programme

- Derivatives
- Mathématiques des caisses
de pension
- Seminar in International Social
Protection
- Prévoyance professionnelle suisse
- Health Economics

6 ECTS credits

4th semester

Master thesis

30 ECTS credits

PRACTICAL INFORMATION

Admission requirements

A Bachelor's degree from a Swiss university in Economics, Management, Finance, Information Systems or Mathematics.

Another degree or university qualification may be judged equivalent and give access to the Master's programme, with or without conditions.

Regulations and additional information concerning the course

Programme web site:

www.msas.ch

Internet site of HEC Lausanne:

www.hec.unil.ch

Final enrolment date

30th April

Candidates needing a study visa must apply two months prior to this deadline.

Start of courses

mid-September

Part-time Master's degree

See Directive 3.12:

www.unil.ch/interne/page44629.html#3

Academic calendar

www.unil.ch/central/page4804.html

General information on studies, career prospects and guidance

Office for educational counselling and careers guidance:

www.unil.ch/soc

Accommodation and financial assistance

Office for socio-cultural affairs:

www.unil.ch/sasc

International students

www.unil.ch/international

Study abroad opportunities

www.unil.ch/echanges

