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# Maîtrise universitaire en droit et économie

## PRÉSENTATION GÉNÉRALE

### Objectifs

Organisé conjointement par la Faculté de droit, des sciences criminelles et d'administration publique et HEC Lausanne, ce cursus a pour objectif de compléter les formations initiales en droit, respectivement en sciences économiques, par une approche interdisciplinaire permettant aux étudiantes et étudiants issus de chacune de ces deux disciplines d'acquérir de très bonnes connaissances dans l'autre domaine.

Il existe en effet un besoin manifeste de professionnelles et professionnels alliant de fortes connaissances juridiques à la maîtrise des paramètres économiques.

À l'heure où les compétences transversales sont de plus en plus importantes, la Maîtrise universitaire en Droit et économie (MDE) offre aux étudiantes et étudiants en droit, respectivement en sciences économiques, la possibilité d'acquérir un savoir pertinent pour les divers secteurs économiques du monde des affaires.

La MDE est ciblée avant tout sur le droit commercial et financier, la gestion d'entreprises et la fiscalité.

### Perspectives professionnelles

La MDE permet aux titulaires d'un Baccalauréat universitaire en Droit d'accéder au stage d'avocat-e. La Maîtrise permet également de bénéficier d'équivalences dans le cadre des formations liées aux brevets d'expert-e-s fiscaux et d'expert-e-s comptables.

Divers débouchés sont envisagés :

- Sociétés industrielles, assurances, fiduciaires
- Banques privées, banques d'affaires, placements collectifs, gestion de fortune
- Conseil juridique (avocat-e-s), audit, comptabilité, conseil fiscal, compliance
- Administrations fiscales, services financiers des collectivités publiques
- FINMA, SECO, SIX, COMCO, OFJ, COPA, MROS
- Organisations internationales, notamment OMC, OCDE
- Organisations patronales et syndicales

En outre, les études universitaires développent un grand nombre de compétences transversales : communication, esprit critique, d'analyse et de synthèse, conduite d'une recherche, etc. Cet éventail de compétences, associées aux connaissances spécialisées acquises pendant les études, prépare à une insertion dans des secteurs d'activités très variés.

un diplôme  
2 en 1 pour  
des horizons  
plus larges!

## INFORMATIONS UTILES

### Organisateurs

Faculté de droit, des sciences criminelles et d'administration publique : [www.unil.ch/fdca](http://www.unil.ch/fdca)  
HEC Lausanne : [www.unil.ch/hec](http://www.unil.ch/hec)

### Grade décerné

Maîtrise universitaire en Droit et économie  
Master of Law (MLaw) in Law and Economics

### Crédits ECTS

90

### Durée

3 semestres

### Langue d'enseignement

Français et quelques cours en anglais  
Niveaux nécessaires pour les études : C1

### Conseillère aux études

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### Informations complémentaires

[www.unil.ch/hec/mde](http://www.unil.ch/hec/mde)



## CONTENU DE LA FORMATION

### Descriptif

La Maîtrise universitaire en Droit et économie est constituée de 4 modules qui sont effectués en parallèle.

**Le module 1** vise avant tout à vous transmettre des bases dans la discipline que vous n'avez pas étudiée dans le cadre de votre formation universitaire antérieure. Ainsi, ce module représente 24 ECTS et est divisé en Module 1a pour les juristes et Module 1b pour les économistes. Ces sous-modules complètent la formation de base.

**Le module 2** représente 15 ECTS de cours fondamentaux à option destinés à toutes les étudiantes et à tous les étudiants.

**Le module 3** offre une vaste palette de cours à option, dans les deux disciplines. Sur les 36 crédits ECTS composant ce module, vous êtes tenu-e de choisir un minimum de 12 crédits ECTS de cours relevant par leur contenu de la discipline dans laquelle vous n'avez pas accompli votre formation universitaire antérieure.

L'étudiant-e qui réussit la maîtrise et obtient un minimum de 21 crédits ECTS en « droit fiscal », et/ou en « droit financier » peut demander l'adjonction, dans son supplément au diplôme, de la « mention droit fiscal » et/ou de la « mention droit financier ».

Les 15 crédits du **module 4** sont acquis en effectuant un mémoire de recherche ou un mémoire de stage, qui fait l'objet d'une soutenance.

### Mobilité

Vous avez la possibilité d'effectuer un séjour de mobilité d'un semestre (30 crédits ECTS) dans une université en Suisse alémanique ou à l'étranger, avec l'autorisation préalable des organes compétents de la Maîtrise.

## PROGRAMME D'ÉTUDES\*

### Enseignements du Module 1

*Modules 1a pour juristes :*

- Comptabilité et analyse des états financiers
- Economie I
- Empirical Methods for Lawyers
- Introduction à la finance
- Leadership Development
- Microeconomics & Game Theory
- Stratégie d'entreprise
- Economie II

*Modules 1b pour économistes :*

- Aspects juridiques du financement d'entreprise
- Droit commercial
- Droit de l'Union européenne
- Droit des obligations
- Droit pénal
- Droit public
- Méthode en droit des affaires

### 24 crédits ECTS

### Module 2

Enseignements à option répartis sur les 3 semestres

### 15 crédits ECTS

### Aperçu des enseignements à option du Module 3

- Advanced Group Accounting
- Droit des marchés financiers
- Droit de la concurrence suisse et européenne
- Droit des assurances privées
- Droit du commerce international
- Droit du travail
- Droit pénal économique
- Droit pénal informatique
- Droit et éthique de la profession d'avocat
- Finance Ethics
- Finance, droit et digitalisation
- Financial Institutions & Regulations
- Fiscalité internationale
- Fusions, acquisitions et régime des OPAs
- Gouvernement d'entreprise
- Innovation Law
- Leadership Development
- Managerial Decision Making
- Managing Contractual Relationship
- Normes comptables internationales
- Procédure administrative/civile/pénale
- Rédaction de contrats
- Séminaire de restructuration financière
- Unethical Decision Making
- Accès à certains cours en économie de l'IDHEAP

### 36 crédits ECTS

### Mémoire

L'étudiant-e est tenu-e de remplir un accord de mémoire (de recherche) ou une convention de stage après son premier semestre d'études

### 15 crédits ECTS

\* Seul le plan d'études officiel fait foi.

## INFORMATIONS UTILES

### Critères d'admission

Baccalauréat universitaire en Droit d'une université suisse, rattaché à la branche d'étude (swissuniversities) « droit » ; Baccalauréat universitaire ès Sciences économiques d'une université suisse rattaché à au moins une des branches d'étude (swissuniversities) suivantes : « informatique de gestion », « gestion d'entreprise », « finance » et « économie politique ».

Un autre grade ou titre universitaire peut être jugé équivalent et permettre l'accès à la Maîtrise, avec ou sans conditions.

### Horaires et descriptifs des cours

[www.unil.ch/hec](http://www.unil.ch/hec)  
[www.unil.ch/ecolededroit](http://www.unil.ch/ecolededroit)

### Inscription et délais

Dossier de candidature à remettre au Service des immatriculations et inscriptions de l'UNIL avant le 30 avril : [www.unil.ch/immat](http://www.unil.ch/immat)

Si vous devez obtenir un visa en vue d'études en Suisse : 28 février.

### Début des cours

Mi-septembre. Calendrier académique : [www.unil.ch/calendrier](http://www.unil.ch/calendrier)

### Études à temps partiel

Ce Master peut être suivi à temps partiel, à certaines conditions : [www.unil.ch/formations/master-temps-partiel](http://www.unil.ch/formations/master-temps-partiel)

### Études à l'UNIL, aide à l'orientation

[www.unil.ch/soc](http://www.unil.ch/soc)

### Perspectives professionnelles

[www.unil.ch/perspectives/unil-et-apres-heccareer.ch](http://www.unil.ch/perspectives/unil-et-apres-heccareer.ch)

### Logement et aides financières

[www.unil.ch/sasme](http://www.unil.ch/sasme)

### International

[www.unil.ch/international](http://www.unil.ch/international)



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Learn the  
concepts –  
understand  
the real world

# Master of science (MSc) in Economics

## GENERAL OUTLINE

### Objectives

The Master of Science in Economics (MScE) provides you with the skills for a successful career as a professional economist. Our curriculum also prepares you well for a PhD program in economics, both in Switzerland and abroad. Our MScE is internationally recognized because our faculty is active in international research circles and many of our previous graduates have done very well professionally both in the private sector and in the academic world.

Our main objective is to provide you with a thorough approach to economics. We believe that acquiring analytical and quantitative skills early on is essential for any professional economist. Whereas a Bachelor's degree provides basic knowledge and intuition, our program offers courses on the foundations of economics analysis and applications.

These foundations are key towards making real analytical and managerial contributions in both public and private sector positions, or in the world of academic research.

We ensure that you have the best resources available for your studies. Our classes are typically small which allows us to engage in a real dialogue with you.

The primary objectives of the various modules of the MScE are to introduce, to analyze and to apply state-of-the-art methods in economic and econometric research.

## GENERAL INFORMATION

### Organizer

HEC Lausanne: [www.unil.ch/hec](http://www.unil.ch/hec)  
Department of Economics (DE):  
[www.unil.ch/de](http://www.unil.ch/de)

### Degree awarded

Maîtrise universitaire ès Sciences  
en économie politique  
Master of Science (MSc) in Economics,  
mentions:

- Data Science
  - Development Economics
  - Environmental Economics
  - Macroeconomic Policy
  - Microeconomic Policy
  - Public Economics
  - Quantitative Economics
- Possible specialization area:
- Behaviour, Economics and Evolution

### ECTS credits

120

### Duration

4 semesters

### Teaching language

English. Level necessary for your studies: C1

### Academic advisor

M<sup>me</sup> Sylvie Grin van Hamel  
Quartier UNIL – Chamberonne  
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[sylvie.grinvanhamel@unil.ch](mailto:sylvie.grinvanhamel@unil.ch)

### Additional information

[www.unil.ch/hec/masters](http://www.unil.ch/hec/masters)



Version: February 2024  
Subject to changes.  
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## EDUCATIONAL CONTENT

### Description

Our MScE program spans two years, comprising four semesters. You can specialize by choosing one or two of the following mentions: Data Science, Development Economics, Environmental Economics, Macroeconomic Policy, Microeconomic Policy, Public Economics, and Quantitative Economics. The first three semesters offer a collection of compulsory and elective courses which can lead to one specialization in Behaviour, Economics and Evolution representing 30 ECTS credits. The last semester is entirely dedicated to your work on the Master's thesis.

During the first semester (Module 1), we offer a series of foundation courses reviewing key economic concepts at a level that continues from a third-year undergraduate course in economics.

In the second and third semester (Module 2), we offer courses in advanced theory that build on the knowledge gained during the first semester and cover the main areas of modern economics. These courses provide you with the key analytical and quantitative tools required to carry out your own research.

In the fourth semester, you demonstrate your analytical and quantitative skills in the context of your Master's thesis. This thesis covers a subject of your choice and provides an economic analysis of that topic. You can also write your thesis in the context of an internship in a private or public sector organization. Students in the BEE specialization write a thesis that is co-supervised by one professor from the department of economics, and one professor from the school of biology.

### Mobility

You can spend your third semester in any university recognized by the University of Lausanne in the context of the mobility exchange program. You can earn up to 30 ECTS in your exchange institution. Submit the list of courses to the director of the Master's program to get these courses and credits approved prior to taking them.

## SYLLABUS\*

### Module 1

Submodule 1.1 Foundation courses  
3 compulsory

- Econometrics
- Macroeconomics
- Microeconomics

and the choice between:

Option A:

- Applied Mathematics
- Mathematics for Economics & Finance

Option B:

- Economic Policy Seminar
- Mathematics for Economic Policy

Option C BEE specialization:

- Genes Population & Evolution
- Mathematics for Economic Policy

**30 ECTS credits**

### Module 2

Example of courses

- Advanced Topics in Industrial Organization
- Behavioral Economics
- Behaviour, Economics and Evolution Lecture Series
- Business Cycles
- Courses on Evolution and Biology
- Development Economics
- Dynamic Macroeconomic Models
- Economic Analysis and Communication
- Economic Growth
- Environmental Economics
- Experimental Methods
- Financial Institutions and Regulation
- Game Theory
- Health Economics
- International Macroeconomics
- International Trade
- Labour Economics & Policy
- Leadership Development
- Macroeconometrics
- Macroeconomic Policy
- Macroeconomics of Financial Crises
- Microeconometrics
- Organizational Theory and Decision Making
- Political and Institutional Economics
- Public Economics
- Regulatory Economics

**60 ECTS credits**

### Module 3

Research or internship Master thesis

**30 ECTS credits**

\* the official study plan prevails.

## GENERAL INFORMATION

### Admission requirements

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

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

### Enrolment and final dates

The candidate's application must be submitted to the UNIL Admissions Department before 30<sup>th</sup> April: [www.unil.ch/immat](http://www.unil.ch/immat)

Candidates needing a study visa: 28<sup>th</sup> February

### Start of courses

Mid-September. Academic calendar: [www.unil.ch/central/calendar](http://www.unil.ch/central/calendar)

### Part-time Master's degree

Under certain conditions, this Master's program can be followed part-time: [www.unil.ch/formations/master-temps-partiel](http://www.unil.ch/formations/master-temps-partiel)

### General information on studies

[www.unil.ch/soc](http://www.unil.ch/soc)

### Career prospects

[www.unil.ch/perspectives/unil-et-apres](http://www.unil.ch/perspectives/unil-et-apres)  
<https://heccareer.ch/>

### Accommodation and financial assistance

[www.unil.ch/sasme](http://www.unil.ch/sasme)

### International

[www.unil.ch/international](http://www.unil.ch/international)



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How can we  
read tomorrow's  
markets  
correctly?

## Master of science (MSc) in finance

### GENERAL OUTLINE

#### Objectives

Understanding the recent dramatic evolution of the world of finance is fundamental for a career related to Finance. As such, HEC Lausanne, a leader in European Finance training, is proud to organize the orientation Financial Entrepreneurship and Data Science, where students will get training on entrepreneurship - that is, how to create their own company, as well as training on the challenges that large data-sets represent.

In this innovative orientation, students will get, in addition to a traditional finance curriculum, knowledge of what hides behind buzz words, such as robo-advertising, peer-to-peer lending, predictive markets, and cryptocurrencies. The aim of this new orientation is to provide you with the necessary knowledge and language enabling you to discuss with an engineer who will then implement your requests.

The Master of Science in Finance also offers two additional orientations to help the students gaining excellent quantitative knowledge and better understanding the working of firms and financial institutions:

Corporate Finance focuses on Investments, Distribution & Risk Management in order to conduct thorough financial analysis of various companies.

Asset and Risk Management requires highly quantitative skills in order to make the best possible investment decisions considering the financial risk.

In this program, students will understand how to manage portfolios by using quantitative methods and to assess the investments risks. In addition to providing strong theoretical bases, professors aim to teach the participants to apply their newly gained « know-how ». The MSc in Finance has been recognized by the CFA Institute as a CFA Program Partner. Other partners are CAIA and FRM.

### GENERAL INFORMATION

#### Organizer

HEC Lausanne, Departement of Finance:  
[www.unil.ch/df](http://www.unil.ch/df)

#### Degree awarded

Maîtrise universitaire ès Sciences en finance  
Master of Science (MSc) in Finance  
Three mandatory orientations:

- Corporate Finance
- Asset and Risk Management
- Financial Entrepreneurship and Data Science

#### ECTS credits

120

#### Duration

4 semesters

#### Teaching language

English. Level necessary for your studies: C1

#### Academic advisor

M<sup>me</sup> Sylvie Grin van Hamel  
Quartier UNIL – Chamberonne  
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#### Additional information

[www.unil.ch/hec/masters](http://www.unil.ch/hec/masters)



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## EDUCATIONAL CONTENT\*

### Description

The Master of Science in Finance (MScF) is a two-year program constructed around four semesters. Accomplishment of the program is rewarded with 120 ETCS.\*

In the first semester the aim is to homogenize the knowledge of students since many students come from abroad. This is also the time to ascertain students possess the required skills to deal later on with the more technical courses. Those skills are in mathematics, statistics, programming, accounting, and key finance topics such as corporate finance and asset pricing. Students entering the MScF are expected to have already a very good knowledge of those skills and are encouraged to verify they have the required skills on this webpage: [www.unil.ch/hec](http://www.unil.ch/hec) > Masters > Finance > Admissions.

In the following semesters, students have to attend modules containing either compulsory fundamental courses, orientation specific courses, or elective courses. Eventually, they are required to write a thesis.

In the fundamental courses, students have to acquire advanced knowledge of derivatives pricing and the working of fixed income markets. We also put emphasis on ethics and sustainability.

In the Asset and Risk Management track, we aim to provide the knowledge that could lead for instance to a career in wealth management or as a risk manager. The courses introduce alternative markets and the working of financial institutions. The thrust of the program is however on quantitative methodology. How do you build a state of the art portfolio? What is the risk of such a portfolio?

In the Corporate Finance track, participants learn those aspects required for instance for a career in investment banking or work in a consultancy company. The provided courses are related to the valuation of firms and to understand the concepts behind mergers and acquisition. The body of knowledge is aligned with the one of the CFA, generally on a more quantitative level however.

In the Financial Entrepreneurship and Data Science track we aim to provide the knowledge which is required for someone who wants to create a company or who aims to work at the frontier of finance and new technologies such as cryptocurrencies and artificial intelligence. In this track, lots of programming is required. This track also contains courses providing management skills.

Those courses will be complemented by elective courses to be chosen in a pool of available courses.

In each orientation, there is one class where students will get the opportunity to hone their soft skills.

The fourth semester is dedicated to the writing of a Master thesis, which may be done during an internship with a local or international financial institution. It is also possible to write an academic thesis, in many cases the first step towards a PhD.

### Mobility

During their third semester, based on their previous performance, students may study in a university recognised by UNIL, under an exchange program. 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.

### Career prospects

University studies develop many transversal skills: oral and written communication, critical, analytical and summarising faculties, abilities in research, etc.

This panoply of skills, combined with specialist knowledge acquired in the course of studies, is an excellent preparation for a wide range of employment opportunities in all sorts of industries. This Master prepares for high-level financial careers in companies requiring profound knowledge of corporate finance and risk management techniques:

- Banks (central, retail, private, and investment), insurance companies
- Wealth manager or advisor in family offices
- Consulting companies
- Corporate finance
- Pension funds
- Trading
- Government bodies, regulators, international institutions
- Venture capital, M&A, structuring, funding
- Research, doctoral studies, academic career

\* the official study plan prevails.

## GENERAL INFORMATION

### Admission requirements

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

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

### Enrolment and final dates

The candidate's application must be submitted to the UNIL Admissions Department before 30<sup>th</sup> April: [www.unil.ch/immat](http://www.unil.ch/immat)

Candidates needing a study visa: 28<sup>th</sup> February

### Start of courses

Mid-September. Academic calendar: [www.unil.ch/central/calendar](http://www.unil.ch/central/calendar)

### Part-time Master's degree

Under certain conditions, this Master's program can be followed part-time: [www.unil.ch/formations/master-temps-partiel](http://www.unil.ch/formations/master-temps-partiel)

### General information on studies

[www.unil.ch/soc](http://www.unil.ch/soc)

### Career prospects

[www.unil.ch/perspectives/unil-et-apres](http://www.unil.ch/perspectives/unil-et-apres)  
<https://heccareer.ch/>

### Accommodation and financial assistance

[www.unil.ch/sasme](http://www.unil.ch/sasme)

### International

[www.unil.ch/international](http://www.unil.ch/international)



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# Master of science (MSc) in Management

## GENERAL OUTLINE

### Objectives

New technologies, globalization and exploding digital data drive our world into new challenges that will only be taken up by managers and leaders equipped with the finest skills and knowledge.

- The orientation in Business Analytics provides students with knowledge to extract the information from data to make efficient decisions and to improve their performance.
- The orientation in Strategy, Organization & Leadership offers qualifications for a wide range of positions (consultant, analyst, etc.) but also for developing one's own entrepreneurial venture.

- With the orientation in Marketing, students gain proficiency in the latest concepts, cutting-edge trends and marketing methods.
- With the BEE orientation (Behaviour, Economics and Evolution), we aim at an integrative understanding of social interactions, using knowledge from management, economics and evolutionary biology. Students will obtain a profound understanding of human decision-making which is needed to make key managerial decisions better and faster.

Is having convictions  
reason enough  
to share them?

## GENERAL INFORMATION

### Organizer

HEC Lausanne:  
[www.unil.ch/hec](http://www.unil.ch/hec)

### Degree awarded

Maîtrise universitaire ès Sciences en management  
Master of Science (MSc) in Management  
Four mandatory orientations:

- Business Analytics
- Strategy, Organization & Leadership
- Marketing
- Behaviour, Economics and Evolution

### ECTS credits

120

### Duration

4 semesters

### Teaching language

English. Level necessary for your studies: C1

### Academic advisor

M<sup>me</sup> Sylvie Grin van Hamel  
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### Additional information

[www.unil.ch/hec/masters](http://www.unil.ch/hec/masters)



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## EDUCATIONAL CONTENT

### Description

In all orientations, business cases and company projects allow students to apply field methodologies to real data. Special subjects can be completed by the lecture of external speakers from renowned and international companies.

### Career prospects

- « Business Analytics » : Examples of career prospects in all types of companies are : business analyst, data analyst, consultant, project manager, entrepreneur, digital marketing analyst, etc.
- « Strategy, Organization & Leadership » : Following types of positions can be mentioned : consultant, project manager, business analyst, human resources manager, etc.
- « Marketing » : With this orientation, graduates can seek the following positions : brand manager, marketing analyst, digital marketing manager, consultant, customer and market knowledge manager, etc.
- « Behaviour, Economics and Evolution » : Graduates of this orientation can work in areas such as : sustainable development, environmental conservation, natural resources management, biotech, agriscience and pharmaceuticals as a consultant, project manager, communications manager, human resources manager, entrepreneur, etc.

All the orientations of the Master's in Management also offer excellent preparation for a doctorate and an academic career.

## SYLLABUS\*

### 1<sup>st</sup> semester (30 ECTS credits)

Compulsory courses

- Quantitative Methods for Management
- 2 orientation-specific courses
- 2 restricted elective courses

### Key aspects of the curriculum

Orientation in « Business Analytics »

- Data Science
- Data Visualization
- Machine Learning
- Operations & Supply Chain Management
- Prediction Models
- Statistical Analysis

Orientation in « Strategy, Organization & Leadership »

- Corporate Social Responsibility and Strategy
- Entrepreneurship and Strategy
- Game Theory for Strategy
- International Strategy
- Leadership Development
- Quantitative Methods for Strategy Decisions
- Strategy and Consulting

Orientation in « Marketing »

- Business-to-Business Marketing
- Brand Management
- Consumer Behaviour
- Distribution Management
- E-marketing and Social Media
- Global & Luxury Marketing
- Strategic Marketing

Orientation in « Behaviour, Economics and Evolution »

- Corporate Social Responsibility
- Cross-cultural Management
- Environmental Economics
- Ecology and Evolution
- Group Processes
- Human Resources Management

### Mobility

During their third semester, students may take part in an exchange program, and study at a university recognised by UNIL. A maximum of 30 credits can be acquired in another institution. Prior authorisation by the Master's Committee is required for the recognition of credits earned abroad or within Switzerland.

### 4<sup>th</sup> semester (30 ECTS credits)

Research or internship Master thesis.

Prerequisite : the 'Art of writing a Master's thesis' course

\* the official study plan prevails.

## GENERAL INFORMATION

### Admission requirements

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

Another degree or university qualification in the same field of study may be deemed equivalent and give access to the Master's program, with or without conditions.

### Enrolment and final dates

The candidate's application must be submitted to the UNIL Admissions Department before 30<sup>th</sup> April : [www.unil.ch/immat](http://www.unil.ch/immat)

Candidates needing a study visa : 28<sup>th</sup> February

### Start of courses

Mid-September. Academic calendar : [www.unil.ch/central/calendar](http://www.unil.ch/central/calendar)

### Part-time Master's degree

Under certain conditions, this Master's program can be followed part-time : [www.unil.ch/formations/master-temps-partiel](http://www.unil.ch/formations/master-temps-partiel)

### General information on studies

[www.unil.ch/soc](http://www.unil.ch/soc)

### Career prospects

[www.unil.ch/perspectives/unil-et-apres](http://www.unil.ch/perspectives/unil-et-apres)  
<https://heccareer.ch/>

### Accommodation and financial assistance

[www.unil.ch/sasme](http://www.unil.ch/sasme)

### International

[www.unil.ch/international](http://www.unil.ch/international)



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# Master of science (MSc) in Actuarial science

## GENERAL OUTLINE

### Objectives

This Master's degree offers a complete basic education for future actuaries and risk managers. An actuary is a business professional who deals with the financial impact of risk and uncertainty, typically in insurance firms, multinationals and pension funds.

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

This program fulfills the requirements of the syllabus of the Swiss Association of Actuaries (SAA) and prepares students to some exams of the Institute and Faculty of Actuaries (UK) and of the Society of Actuaries (US).

### Career prospects

University studies develop many transversal skills: oral and written communication, critical, analytical and summarising faculties, abilities in research, etc.

This panoply of skills, combined with specialist knowledge acquired in the course of studies, is an excellent preparation for a wide range of employment opportunities in financial sectors:

- Insurance companies
- Banks
- Consulting firms
- Pension funds
- Regulatory authorities
- Social security institutions
- Multinationals

## what is the real value of risk?

## GENERAL INFORMATION

### Organizer

HEC Lausanne: [www.unil.ch/hec](http://www.unil.ch/hec)  
Department of Actuarial Science (DSA):  
[www.unil.ch/dsa](http://www.unil.ch/dsa)

### Degree awarded

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

### ECTS credits

120

### Duration

4 semesters

### Teaching language

English. Level necessary for your studies: C1

### Academic advisor

M<sup>me</sup> Sylvie Grin van Hamel  
Quartier UNIL – Chamberonne  
Internef #258.1  
CH – 1015 Lausanne  
Tel. +41 (0)21 692 33 09  
[sylvie.grinvanhamel@unil.ch](mailto:sylvie.grinvanhamel@unil.ch)

### Additional information

[www.unil.ch/hec/masters](http://www.unil.ch/hec/masters)



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Subject to changes.  
Only the official texts should be considered binding.

## EDUCATIONAL CONTENT

### Description

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

In the first semester, all students must attend a set of six compulsory courses.

In the second semester, students gain knowledge of actuarial mathematics for life assurance, risk theory, modeling distributions of claims/losses, social security, simulation and programming.

In the third semester, students gain knowledge of actuarial mathematics for advanced life insurance concepts, advanced actuarial modeling, credibility theory, accounting, asset management and risk management, analysis of results, pension funds management and data science.

The fourth semester is dedicated to the Master's thesis. The student may opt for a research thesis or an internship thesis.

### 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.

## SYLLABUS\*

### 1<sup>st</sup> semester

Compulsory courses

- Probability and Stochastic Processes
- Quantitative Methods for Actuaries
- Mathematics of Compound Interest
- Insurance Economics
- Principles of Finance
- Computational Tools for Actuaries

**30 ECTS credits**

### 2<sup>nd</sup> semester

Compulsory courses

- Risk Theory
- Loss Models
- Life Contingencies I
- Ratemaking & Claims Reserving
- Social Insurance

**24 ECTS credits**

### 3<sup>rd</sup> semester

Compulsory courses

- Asset and Liability Management for Actuaries
- Life Contingencies II
- Credibility Theory
- Insurance Analytics
- Actuarial Modelling

**24 ECTS credits**

Optional credits

- Simulation Methods in Finance & Insurance
- Programming
- Time Series
- Accounting
- Blockchain & Crypto Economy
- Actuarial Data Science
- Investments
- Mathématiques des caisses de pension
- Prévoyance professionnelle suisse
- Topics in Finance

**6 ECTS credits per semester**

### 4<sup>th</sup> semester

Academic or internship Master thesis

**30 ECTS credits**

\* the official study plan prevails.

## GENERAL 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 program, with or without conditions.

### Enrolment and final dates

The candidate's application must be submitted to the UNIL Admissions Department before 30<sup>th</sup> April: [www.unil.ch/immat](http://www.unil.ch/immat)

Candidates needing a study visa: 28<sup>th</sup> February

### Start of courses

Mid-September.  
Academic calendar: [www.unil.ch/central/calendar](http://www.unil.ch/central/calendar)

### Part-time Master's degree

Under certain conditions, this Master's program can be followed part-time: [www.unil.ch/formations/master-temps-partiel](http://www.unil.ch/formations/master-temps-partiel)

### General information on studies

[www.unil.ch/soc](http://www.unil.ch/soc)

### Career prospects

[www.unil.ch/perspectives/unil-et-apres](http://www.unil.ch/perspectives/unil-et-apres)  
<https://heccareer.ch/>

### Accommodation and financial assistance

[www.unil.ch/sasme](http://www.unil.ch/sasme)

### International

[www.unil.ch/international](http://www.unil.ch/international)



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can you shape  
the future?

# master of science (MSc) in information systems and digital innovation

## GENERAL OUTLINE

### Objectives

Digital technologies act as a significant catalyst in our rapidly evolving world, affecting not only businesses but also society and the environment. This Master's program is an intense and engaging, 3-semester program blending business and technology.

It is designed for individuals who:

- Have a passion for emerging technologies and want to make a meaningful impact on business, society, and the environment.
- Enjoy innovation and are eager to tackle complex real-world problems, envisioning and crafting practical solutions.
- Aspire to launch their own digital ventures, or have keen interest in spearheading digital innovation within organizations.

### Career prospects

The program offers a mix of business and technology skills, opening up multiple job opportunities and enabling you to effectively tackle future challenges. Upon program completion, you will have the flexibility to pursue a range of jobs, including technical, managerial, and strategic roles. Our alumni have successfully pursued high-demand, well-compensated careers with abundant opportunities, including:

- Project and Innovation Management (Innovation Project Manager, Digital/IT Project Manager, Business or Technology Consultant)
- Design and Development of Digital Solutions (Product Owner/Manager, Interaction Designer, Agile Delivery Manager)
- Data & Analytics (Business Analyst, Data Scientist)
- Cybersecurity (Security Analyst)
- Startups (Founder or Entrepreneur)
- Research in Information Systems and Digital Innovation (PhD student or Professor)
- Technology Leadership (Head of Product, Director of Information Systems - CTO/CIO)

## GENERAL INFORMATION

### Organiser

HEC Lausanne: [www.unil.ch/hec](http://www.unil.ch/hec)  
Information Systems Department (DESI):  
[www.unil.ch/desi](http://www.unil.ch/desi)

### Degree awarded

Maîtrise universitaire ès Sciences  
en systèmes d'information et innovation  
numérique  
Master of Science (MSc)  
in Information Systems and Digital  
Innovation

### ECTS credits

90

### Duration

3 semesters

### Teaching language

French and English.  
Level necessary for your studies: C1

### Study advisor

M<sup>me</sup> Sylvie Grin van Hamel  
Quartier UNIL – Chamberonne  
Internef #258.1  
CH – 1015 Lausanne  
Tel. +41 (0)21 692 33 09  
[sylvie.grinvanhamel@unil.ch](mailto:sylvie.grinvanhamel@unil.ch)

### More information

[www.unil.ch/hec/masters](http://www.unil.ch/hec/masters)



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## EDUCATIONAL CONTENT

### Description

We provide a dynamic and immersive Master's program that extends over three semesters, seamlessly integrating business and technology. In the first two semesters, you will engage in a diverse array of courses characterized by their creative, collaborative, and practical approach. These courses foster many opportunities for project-based learning, encompassing essential topics in management, technology fundamentals, and the development and conceptualization of digital solutions. Throughout this period, you will apply critical thinking, innovation, and design approaches, enjoying the sense of achievement that comes from bringing new ideas to life.

The third semester primarily focuses on preparing and composing a dissertation either at the University or as part of an internship, which accounts for 24 ECTS. Additionally, you can choose to participate in 6 ECTS worth of optional pedagogical activities such as seminars.

One of the highlights of this program is the « Digital Innovation Week ». During this event, you will tackle real-world digital challenges presented by local businesses, working in teams to develop and present innovative solutions.

**Our team:** The professors leading this program have been working on the transformational power of digital technologies for decades. Our diverse teaching team brings a wealth of knowledge from both academia and industry. We are committed to continually crafting a cutting-edge program that prepares you for future challenges and incorporates the latest technologies and their business impacts.

## SYLLABUS\*

### 1<sup>st</sup>-2<sup>nd</sup> semesters (up to 66 ECTS credits)

Compulsory courses (30 ECTS):

- Digital Strategies and Innovation
- Software Architectures
- Data Science & Machine Learning
- Business and IS Design
- Interaction Design

Elective Courses (up to 36 ECTS):

- Digital Innovation Week
- Sustainable Innovation Challenge
- Ethical Business Modeling and Innovation Design
- Enterprise Data and Integration
- Information Security & Privacy
- Strategy in Digital Markets
- Advanced Project Management & Outsourcing in a Digital Era
- Audit & Governance of IT
- Cloud & Advanced Analytics
- Management of AI in Organizations
- Technical and Economic Aspects of Cybersecurity
- Research Introduction Seminar

### 3<sup>rd</sup> semester (24-30 ECTS credits)

Academic dissertation or internship dissertation, and related pedagogical activities.

\* the official study plan prevails.

## PRACTICAL INFORMATION

### Admission requirements

Candidates must be holders of a Bachelor of Science awarded by a Swiss university in one of the following areas: Business Information Systems; Economics, Management or Finance, provided that the candidates have earned at least 12 ECTS credits in informatics; in Informatics or Communication Systems provided that they have earned at least 12 ECTS credits in human and social sciences.

Another degree or university title may be judged to be equivalent and give access to this Master's degree course, with or without further conditions.

### Enrolment and final dates

The candidate's application must be submitted to the UNIL Admissions Department before 30<sup>th</sup> April: [www.unil.ch/immat](http://www.unil.ch/immat)

Candidates needing a study visa: 28<sup>th</sup> February

### Start of courses

Mid-September  
Academic calendar: [www.unil.ch/central/calendar](http://www.unil.ch/central/calendar)

### Part-time Master's degree

Under certain conditions, a Master programme can be followed part-time. See [www.unil.ch/formations/master-temps-partiel](http://www.unil.ch/formations/master-temps-partiel).

### Timetables

[www.unil.ch/hec/masters](http://www.unil.ch/hec/masters)

### General information on studies, guidance

[www.unil.ch/soc](http://www.unil.ch/soc)

### Career prospects

[www.unil.ch/perspectives/unil-et-apres](http://www.unil.ch/perspectives/unil-et-apres)  
<https://heccareer.ch/>

### Accommodation and financial assistance

[www.unil.ch/sasme](http://www.unil.ch/sasme)

### International

[www.unil.ch/international](http://www.unil.ch/international)



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