

HEC Lausanne
MSc Actuarial Science
 Study Plan 2021-2022

Courses	Professors	Semesters				ECTS	Lang	Ev
		1 Aut	2 Spri	3 Aut	4 Spri			
MODULE 1: Average set of 30 compulsory credits								
Click for course syllabus								
Insurance Economics	Wagner J.					3	E	W
Mathematics of Compound Interest	Arnold S.					3	E	W
Principles of Finance	Goyal A.					6	E	W
Probability and Stochastic Processes	Bladt M.					6	E	W
Quantitative Methods for Actuaries	Loisel S.					6	E	W
Computational Tools for Actuaries	Zucchinetti, G.					6	E	O

MODULE 2: 48 compulsory credits (take 24 credits per semester)								
Life Contingencies I	Dufresne F.					6	E	W
Loss Models	Hashorva E.					6	E	W
Ratemaking and Claims Reserving	Hieber P.					3	E	W
Risk Theory	Albrecher H.					6	E	W
Social insurance	Arnold S.					3	E	W
Actuarial Modelling	Hashorva E.					6	E	W
Asset and Liability Management for Actuaries	Wagner J.					6	E	W
Credibility Theory	Smith N.					3	E	W
Life Contingencies II	Hieber P.					6	E	W
Life Insurance Actuarial Controlling	Darbellay C.					3	E	W

MODULE 3: 12 optional credits (take 6 credits per semester)								
Simulation Methods in Finance and Insurance	Tamraz M.					3	E	W
Advanced Programming	Scheidegger S.					6	E	P
Time Series	Hashorva E.					3	E	W
Financial Accounting	Markarian G.					6	E	W
Blockchain and Crypto Economy	Zaremba R.					3	E	W
Insurance Analytics	Hieber P.					3	E	O
Investments	Goyal A.					6	E	W
Mathématiques des caisses de pension	Arnold S.					6	F	W
Prévoyance professionnelle	Monnard Séchaud C.					3	F	O

MODULE 4: 30 compulsory credits								
Academic thesis; or internship & thesis	Choose your supervisor					30	E/F	W-O

Legend:

Aut 1 : Autumn 1st semester; **Spri 2** : Spring 2nd semester

Aut 3 : Autumn 3rd semester ; **Spri 4** : 4th semester

ECTS: Credits

Lang: Teaching language (F: French; E: English)

Ev: Type of evaluation (W: Written; O: Oral; P: Project)

Useful information:

1. Read the [Regulations](#) of this program.
2. This program has 120 ECTS credits.

Due to the health evolution linked to COVID-19, the study plans may undergo the following adaptations during the semester:

- possibility to switch from one teaching mode to another (face-to-face <-> distance learning, synchronous <-> asynchronous, switch to co-modal teaching where it was not foreseen at the beginning).

- adaptation of assessment without leading to derogations from the study regulations (oral <-> written, examination <-> validation, individual work <-> group work, practical work <-> theoretical work, in-person assessment <-> online assessment, etc.)

- alternative or shifted modalities for courses, internships, practical work, fieldwork and camps that could not take place or courses that could no longer take place in the form initially planned.

Students are invited to consult regularly the study plans, syllabi and their email.