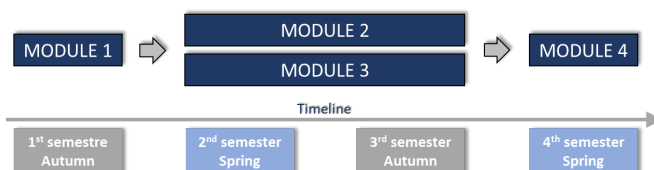


HEC Lausanne  
**MSc Actuarial Science**  
 Study Plan 2022-2023

**Structure of the Master**



This program has 120 ECTS credits.

Courses	Professors	Semesters				ECTS	Lang	Eval
		1 <sup>st</sup> sem Autumn	2 <sup>nd</sup> sem Spring	3 <sup>rd</sup> sem Autumn	4 <sup>th</sup> sem Spring			
<b>MODULE 1: Average set (requires an average of 4.0 or above) of 30 compulsory credits</b>								
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	Albrecher H.	●				6	E	W
Quantitative Methods for Actuaries	Loisel S.	●				6	E	W
Computational Tools for Actuaries	Zucchini, G.	●				6	E	O

<b>MODULE 2: Average set of 48 compulsory credits (24 credits per semester)</b>								
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.			Aut23		6	E	W
Asset and Liability Management for Actuaries	Wagner J.			Aut23		6	E	W
Credibility Theory	Smith N.			Aut23		3	E	W
Insurance Analytics	Hieber P.			Aut23		3	E	O
Life Contingencies II	Hieber P.			Aut23		6	E	W

<b>MODULE 3: 12 optional credits (6 credits per semester)</b>								
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
Actuarial Data Science (Aut 23)	Vacat			Aut23		3	E	E
Blockchain and Crypto Economy	Zaremba R.			Aut23		3	E	W
Financial Accounting	Markarian G.			Aut23		6	E	W
Investments	Goyal A.			Aut23		6	E	W
Mathématiques des caisses de pension	Arnold S.			Aut23		6	F	W
Prévoyance professionnelle	Monnard Séchaud C.			Aut23		3	F	O

<b>MODULE 4: 30 compulsory credits</b>								
Academic thesis or internship & thesis*	Choose your supervisor				●	30	E/F	W-O

\*Internship must be full time or at least 80%

**Legend:**

ECTS: Credits / Lang: Teaching language (F: French; E: English)

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

**Useful information:**

- Read the [Regulations](#) of this program.

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.