

**MASTER OF SCIENCE IN FINANCE (MScF, 90 ECTS)**

**MASTER OF SCIENCE IN FINANCE (MScF, 120 ECTS)**

**MASTER OF SCIENCE IN FINANCE WITH DATA SCIENCE MAJOR (MScF, 120 ECTS)**

**MASTER OF SCIENCE IN FINANCE WITH SUSTAINABILITY MAJOR (MScF, 120 ECTS)**

Code	Course	Instructor	ECTS	Module MScF (90/120 ECTS)	Module Data Science / Sustainability	H/week	Grading Policy
<b>Semester 1 - Autumn</b>							
5AF2003	Investments	Hasler M.	6	M	-	4	E
5AF2009	Fixed Income	Guidotti I.	3	M	-	2	E
5AF2001	Financial Accounting	Fiechter P.	6	M	-	4	E
5AF2041	Quantitative Methods for Finance	Hasler M.	6	M	-	4	EI+E
5AF2048	Financial Technology	Bechtel A.	3	E	D	2	EI+E
5ER2001	Principles in Economics	Khelifa S.	6	E	-	2+2	E
5ST2001	Econometrics	Hasler C.	6	E	D	4	EI+E
5AF2029	Programming	Simon E.	3	E	D	2	EI
5ER2048	Monetary Policy in a New Era	Canetg F.	3	E	-	2	EI
<b>Semester 2 - Spring</b>							
5AF2008	Corporate Finance	NN	6	M	-	4	EI+E
5AF2002	Derivatives	Weigert F.	6	M	-	4	EI+E
5AF2019	ESG Disclosure	Fiechter P.	3	M	S	2	EI
5AF2020	Financial Analysis and Valuation	NN	3	M	-	2	EI+E
5AF2039	Finance Ethics	Fiole E.	3	M	S	2	E
5AF2049	Sustainable Finance	Hasler M.	6	M	S	4	EI+E
5AF2007	Portfolio Management	Sonney F.	3	E	D	2	E
5ER2052	International Finance and Macroeconomics	Kaufmann D.	3	E	-	2	E
5MI2045	Computational Thinking*	Macko V.	3	E	D	1 week	EI
5EN2035	Global Corporate Governance and Ethics	Duberry J.	3	E	S	2	EI
2GG2036	Cours interdisciplinaire en changements climatiques et sociétés	Schneider L. / Intervenantes externes	5-6 <sup>o</sup>	E	S	2	EI
5EN2050	Colloquium on Academic Writing	Reuter E.	3	E	-	2	EI

Semester 3 - Autumn							
5AF2028	Equity Research Contest	Salva C.	6	M	-	4	EI
5AF2030	Alternative Investments	Weigert F.	6	M	-	4	EI+E
5AF2026	Risk Management	Weigert F.	3	M	D	2	EI+E
5AF2050	Sustainable Investing	Bolliger G.	3	E	S	2	EI+E
5AF2048	Financial Technology	Bechtel A.	3	E	D	2	EI+E
5ST2001	Econometrics	Hasler C.	6	E	D	4	EI+E
5MI1005	Data Science for Business	Cotofrei P.	6	E	D	4	EI+E
5MI2017	Data Management	Ciorascu I.	6	E	D	4	EI+E
5AF2017	Applied Macroeconometrics	Kaufmann D.	6	E	D	4	EI+E
5ER2001	Principles in Economics	Khelifa S.	6	E	-	2+2	E
5ER2050	Behavioral Economics	Zihlmann C. / Khelifa S.	3	E	-	2	EI+E
5ER2048	Monetary Policy in a New Era	Canetg F.	3	E	-	2	EI
<b>Total MScF - 90 ECTS<sup>2</sup></b>			<b>90</b>				

Semester 4 - Spring (Research Option) <sup>3</sup>							
5AF2044	Master thesis		30				
5AF2045	Internship thesis*		30				
<b>Total MScF - 120 ECTS<sup>3</sup></b>			<b>120</b>				

Semester 4 - Spring (Data Science Option) <sup>4</sup>							
5AF2007	Portfolio Management	Sonney F.	3	E	D	2	E
5MI2012	Computational Thinking*	Macko V.	3	E	D	1 week	EI
5MI2018	Machine Learning	Ciorascu I.	6	E	D	4	EI+E
5MI2003	Business Analytics	Cotofrei P.	6	E	D	4	EI +E
5ER2020	Applied Microeconometrics	Lanz B.	6	E	D	4	EI+E
3IN2064	Reinforcement Learning and Decision Making Under Uncertainty	Dimitrakakis C.	5	E	D	4	EI+E
5AF2038	Data Science Project		9	E	D		EI

\*The duration of the internship is a minimum of 12 weeks full-time (3 months) and a maximum of 12 months (full-time or part-time).

<b>Semester 4 - Spring (Sustainability Option)<sup>5</sup></b>							
5AF2019	ESG Disclosure	Fiechter P.	3	M	S	2	EI
5AF2039	Finance Ethics	Fiole E.	3	M	S	2	E
5AF2049	Sustainable Finance	Hasler M.	6	M	S	4	EI+E
5EN2035	Global Corporate Governance and Ethics	Duberry J.	3	E	S	2	EI
5ER2032	Energy Economics	Farsi M.	3	E	S	2	E
5ER2023	Environmental Economics	Mathys N.	3	E	S	2	E
5AF2051	Sustainability Project		9	E	S		EI
2GG2036	Cours interdisciplinaire en changements climatiques et sociétés	Schneider L. / Intervenant-e-s externes	5-6 <sup>a</sup>	E	S	2	EI

\*Course enrolment is done in IS-Academia during the course enrolment deadline for the spring semester 2024.

<sup>5</sup>See course description for the allocation of 6 credits

#### **<sup>1</sup>Module abbreviations**

M	Mandatory
E	Elective
D	Course counts in the Data Science Major
S	Course counts in the Sustainability Major

#### **<sup>2</sup>Master in Finance (90 ECTS)**

Students in the Master in Finance (90 ECTS) need to earn 90 ECTS at least, 63 ECTS in mandatory (M) and 27 ECTS in elective (E) courses.

For complete details, please refer to the Directive concerning the study plan of the Master of Science (MSc) in Finance from the academic year 2023-2024 (onwards).

#### **<sup>3</sup>Research Option: Master in Finance (120 ECTS)**

Students in the Master in Finance with the Research Option (120 ECTS) need to meet the criteria of the Master in Finance (90 ECTS) and must validate the master thesis or internship thesis (30 ECTS)

For complete details, please refer to the Directive concerning the study plan of the Master of Science (MSc) in Finance from the academic year 2024-2025 (onwards).

#### **<sup>4</sup>Data Science Option: Master in Finance with Data Science Major (120 ECTS)**

Students in the Master in Finance with the Data Science Major (120 ECTS) need to meet the criteria of the Master in Finance (90 ECTS). In addition,

- They must register for the Data Science Major (120 ECTS)
- They must validate additional 30 ECTS in MScF courses
- Out of the total 120 ECT, they must validate at least 30 ECTS that count towards the Data Science module (D)

For complete details, please refer to the Directive concerning the study plan of the Master of Science (MSc) in Finance from the academic year 2024-2025 (onwards).

### **<sup>5</sup>Sustainability Option: Master in Finance with Sustainability Major (120 ECTS)**

Students in the Master in Finance with the Sustainability Major (120 ECTS) need to meet the criteria of the Master in Finance (90 ECTS). In addition,

- They must register for the Sustainability Major (120 ECTS)
- They must validate additional 30 ECTS in MScF courses
- Out of the total 120 ECT, they must validate at least 30 ECTS that count towards the Sustainability module (S)

For complete details, please refer to the Directive concerning the study plan of the Master of Science (MSc) in Finance from the academic year 2024-2025 (onwards).

#### **In addition**

In place of the electives (E), a maximum of 12 ECTS can be earned by :

- Passing classes in other master programmes at the Faculty of Economics and Business and/or MScF programmes in other Swiss universities. Approval of the Director of the MScF is mandatory.
- Passing the CFA level I exam (6 ECTS)
- Passing the GARP/FRM part I exam (6 ECTS)
- Participating in the "CFA Institute Research Challenge Final, Switzerland" (3 ECTS)
- Conducting an internship of at least 6 weeks including the writing of a report supervised by a professor of the Faculty of Economics and Business. Approval of the Director of the MScF is mandatory. (3 ECTS)

5AF2040 Internship with report

5AF2031 CFA level I

5AF2042 GARP/FRM part I exam

5AF2043 CFA Institute Research Challenge Final

#### **Reading week**

A reading week (*semaine de lecture*) takes place in week 45 of the autumn semester. It enables students, at mid-semester, to identify possible gaps in their understanding of the subject matter, the acquisition of knowledge and the learning of methods. The reading week is an integral part of the programme and may be accompanied by mock, or mid-term, exams in some courses.

#### **Grading Policy**

E: Exam during the exam session at the end of the semester

EI: Evaluation organized during the semester

Retake exam after 1 failure: unless otherwise specified in the course description, 2h written exam during the exam session at the end of the semester or the September session.

The detailed terms of evaluation are specified in the course descriptions.

## LEARNING OUTCOMES

<i>On completion of this program, students will be able to:</i>
<b>Overarching skill</b>
<ul style="list-style-type: none"> <li>Develop expertise in finance using financial theory, economic reasoning, state-of-the art quantitative techniques and sustainable behavior.</li> </ul>
<b>Knowledge and understanding acquired in the program:</b>
<ul style="list-style-type: none"> <li>Describe the mechanics of equity, fixed income, derivatives, and alternative (hedge funds and private equity) markets</li> <li>Describe economic theories used in the process of conducting financial decisions</li> <li>Identify econometrics and programming techniques to build optimal strategies for financial and firm decision-making</li> </ul>
<b>Applying knowledge and understanding:</b>
<ul style="list-style-type: none"> <li>Apply financial theory to solve a variety of problems in investment management, corporate finance, and risk management</li> <li>Build expectations about corporate and financial risks</li> <li>Use data and modelling techniques to reach financial decisions</li> </ul>
<b>Making judgements:</b>
<ul style="list-style-type: none"> <li>Build recommendations based on the financial position and performance of a firm</li> <li>Justify strategies based on the financial needs, goals, or profile of a client, a corporation, a bank or a firm</li> <li>Evaluate the ethical implications of financial decision-making and financial practices</li> </ul>
<b>Communication skills:</b>
<ul style="list-style-type: none"> <li>Synthesize information in verbal presentation and written reports</li> <li>Conduct discussions with actors active in the financial and corporate sector</li> <li>Share knowledge and ideas effectively in team and through team-work</li> </ul>
<b>Learning skills:</b>
<ul style="list-style-type: none"> <li>Acquire skills and information in an independent manner</li> <li>Adapt to the changing business and working environment</li> <li>Choose appropriate financial research methodology to develop new and innovative solutions</li> </ul>