

## Curriculum M Sc in Statistics (90 ECTS)

GENERAL STRUCTURE	ECTS	Status
<b>a) Courses</b>	<b>60</b>	<b>compulsory</b>
Module 1	21	
Module 2	21	
Module 3 - Elective courses	18	
<b>b) Master thesis or internship with report</b>	<b>30</b>	<b>compulsory</b>
<b>Total ECTS MSc in Statistics</b>	<b>90</b>	

Modules / courses	Hours per week	Semester	ECTS per module/ course	Teacher(s)	Participant / contributor	Evaluation mode
-------------------	----------------	----------	-------------------------	------------	---------------------------	-----------------

### a) Courses (60 ECTS)

Module 1			21 ECTS			
Probability theory	2+2	A	6	Dr. H. Mercier	assist.	CA (graded)
Inferential statistics and test theory	4	A	6	Prof. J-Y. Dauxois		Written, 2 hours
Advanced regression methods	2+2	A	6	Prof. Y. Tillé	assist.	Written, 2 hours
Multivariate analysis	2	A	3	Prof. Y. Tillé		Written, 2 hours
Module 2			21 ECTS			
Seminar of statistical software	2	A	3	Dr. A. Matei		CA (graded)
Survey sampling 1	2	A	3	Prof. Y. Tillé		Written, 2 hours
Bayesian statistics 1	2	S (1st half)	3	Dr. J.-M. Freyermuth		CA (graded)
Generalized linear model	2	S	3	Dr. A. Matei		CA (graded)
Seminar of applied statistics	2	S	3	Prof. J. Zuber		CA (graded)
Time series analysis	2+2	S	6	Dr. C. Chevalier	assist.	CA (graded)
Module 3 - Elective courses			Choose 18 ECTS			
Nonparametric statistics	2	A	3	Dr. C. Chevalier		CA (graded)
Bayesian statistics 2	2	S (2nd half)	3	Dr. J.-M. Freyermuth		CA (graded)
Computational statistics	4	S	6	Dr. A. Matei		CA (graded)
Statistical modelling and design of experiments	2	S	3	Prof. Y-L. Grize		Written, 2 hours
Survey sampling 2	2	S	3	Prof. Y. Tillé		Written, 2 hours
Other elective course (see list)		A or S	max. 6			

### b) Master thesis or internship (30 ECTS)

<b>Master thesis or internship with report</b>			<b>30 ECTS</b>			<b>CA (graded)<sup>1</sup></b>
------------------------------------------------	--	--	----------------	--	--	--------------------------------

Modules / courses	Hours per week	Semester	ECTS per module/ course	Teacher(s)		Evaluation mode
-------------------	----------------	----------	-------------------------	------------	--	-----------------

**Elective courses list (max. 6 ECTS)**

Elective courses			max. 6 ECTS			
Informatique générale: Programmation I (in French)	2+2	A	6	Prof. P. Felber		CA (graded)
Structure de données et algorithmique (in French)	2+2	A	6	Dr. A. Sandoz	assist.	CA (graded)
Statistical learning methods	2+2	S	5	Prof. J. Savoy		Written, 2 hours
<b>Courses at the Faculty of Economics and Business</b>						
<i>Probabilistic Algorithms</i>	2/4	A	3/6	<i>Dr P. Cotofrei</i>		*
<i>Data Warehousing</i>	4	S	6	<i>N.N.</i>		*
<i>Economic Statistics</i>	2	A	3	<i>Prof. M. Zarin</i>		*
<i>Asset Pricing</i>	4	A	6	<i>Prof. M. Dubois</i>		*
<i>Derivatives</i>	4	A	6	<i>Prof. P. Roger</i>		*
<i>Portfolio Optimization</i>	2	A	3	<i>Prof. F. Sonney</i>		*
<i>Programming</i>	2	S	3	<i>Dr P. Cotofrei</i>		*
<i>Applied Econometrics</i>	2+2	S	6	<i>Prof. M. Zarin</i>		*
<i>Corporate Finance</i>	4	S	6	<i>Prof. C. Salva</i>		*
<i>International Operations and Logistics</i>	4	A	6	<i>Dr.Y. Nieto</i>		*
<b>Course at the Faculty of Arts</b>						
<i>Linguistique du français moderne: Linguistique de corpus: méthodes et analyse (in French)</i>	2	S	5	<i>Prof. C. Rossari</i>		*

<b>Total of Master in Statistics</b>			<b>90 ECTS</b>			
--------------------------------------	--	--	----------------	--	--	--

**Abbreviations**

CA (graded)= continuous assesment that is graded, modalities fixed in course descriptives

<sup>1</sup> Report (graded)

\* Check on course descriptive of the Faculty of Economics and Business or the Faculty of Arts.

A = Autumn semester / S = Spring semester

**Information**

Master coordinator: Prof. Y. Tillé (yves.tille@unine.ch)

**Exams and regulation**

Candidates must be registerd in IS-Academia for both courses and exams

**For regulation, please consult the homepage of the Faculty of Sciences, [www.unine.ch/sciences](http://www.unine.ch/sciences) (règlement d'études et d'examens" and existing directives) or the administrative staff of the Faculty.**