

MSc in Statistics

Faculty of Science, University of Neuchâtel

A challenge for the future

The program provides solid training in statistical theory and applied methods in practical experience. In this sense, the field of statistics plays an important role as it helps us to sort out information, keeping only that which is essential to draw relevant conclusions. Courses in the MSc in Statistics program are taught by internationally recognized professors and visiting professors, and are complemented by various seminars, elective courses and applied research projects. Research interests include sampling, estimation, semi-/non-parametric methods, multivariate statistics, data mining and complex data analysis.

Prof. in charge of the curriculum

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Enquiries

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Version

Study plan dated 02 May 2022
Valid for the academic year 2022-2023

General structure of the program :

The Master in Statistics is a program given over the span of 3 semesters and requires 90 ECTS credits to complete. The program is divided into three modules, of which two are compulsory. The third gives the students an opportunity to deepen their knowledge of specific fields in theoretical or applied statistics, as well as to follow courses at the Faculty of Economics and Business.

Courses		Master thesis
Compulsory courses	Elective courses	Internship or Master thesis (2 nd year)
Module 1	Module 3	
Module 2		
42 ECTS	18 ECTS	30 ECTS

Courses and Master thesis

Modules/courses	Duration	Semester	ECTS	Principal Lecturer	Evaluation
Module 1			21		
Probability Theory (+exe)	2 (+2)	A	6	Prof. A. Valette	Oral, 30 minutes
Inferential Statistics and Test Theory	4	A	6	Prof. J-Y. Dauxois	Written, 2 hours
Advanced Regression Methods (+exe)	2 (+2)	A	6	Prof. Y. Tillé	Written, 2 hours
Multivariate Analysis	2	A	3	Prof. Y. Tillé	Written, 2 hours
Module 2			21		
Seminar of Statistical Software	2	A	3	Prof. A. Matei	CA (graded)
Survey Sampling 1	2	A	3	Prof. Y. Tillé	Written, 2 hours
Bayesian Statistics	2	S	3	Dr P-Y. Deléamont	Written, 2 hours
Generalized Linear Model	2	S	3	Dr P-Y. Deléamont	CA (graded)
Seminar of Applied Statistics	2	S	3	Prof. J. Zuber	CA (graded)
Time Series Analysis (+exe)	2 (+2)	S	6	Dr C. Chevalier	CA (graded)
Module 3 - Elective courses			18		
Nonparametric Statistics	2	A	3	Dr P-Y. Deléamont	Written, 2 hours
Statistical Learning	2	S	3	Dr P-Y. Deléamont	Written, 2 hours
Computational Statistics	4	S	6	Prof. A. Matei	CA (graded)
Design of Experiments	2	S	3	Prof. Y. Tillé	Written, 2 hours
Survey Sampling 2	2	S	3	Prof. Y. Tillé	Written, 2 hours
Other elective courses (see list)		A or S	max.6		
Master thesis or internship			30		
Internship with Report		A or S	30		CA (graded)
Master thesis		A or S	30		CA (graded)
Total ECTS MSc in Statistics			90		

Other elective courses list

Modules/courses	Duration	Semester	ECTS	Principal Lecturer	Evaluation
At the Faculty of Science					
Informatique générale : programmation I (+exe) <i>in French</i>	2 (+2)	A	6	Prof. P. Felber	CA (graded)
Structure de données et algorithmiques (+exe) <i>in French</i>	2 (+2)	A	6	Dr A. Sandoz	CA (graded)
At the Faculty of Economics and Business					
Data Management	4	A	6	Dr I. Ciorascu	*
Asset Pricing	4	A	6	Prof. T. Kroencke	*
Portfolio Optimization	2	A	3	Dr F. Sonney	*
Global Supply Chain Management	4	A	6	Dr Y. Nieto	*
Business Analytics	4	S	6	Prof. P. Cotofrei	*
Derivatives	4	S	6	Prof. F. Weigert	*
Programming	2	S	3	Prof. E. Simon	*
Applied Microeconometrics	4	S	6	Prof. B. Lanz	*
Corporate Finance	4	S	6	Prof. C. Salva Lopez	*
At the Faculty of Arts and Humanities			max 6		
Séminaire collectif : Linguistique de corpus : méthodes et analyses	2	S	5	Prof. C. Rossari	Note d'enseignement

Complementary information

Evaluations and regulations

- Course and exam registration in IS-Academia is compulsory for course validation.
- For details regarding Faculty regulations, please consult the *Règlement d'études et d'examens de la Faculté des sciences* and existing directives on the Faculty's webpage (www.unine.ch/sciences).
- Continuous assessment evaluations (pass or graded) are specified in the corresponding course description.
- Elective courses are subject to compensation as part of Module 3.

Abbreviations and grades

EXE	= exercises
CA	= continuous assessment
hd	= half-days
d	= days
N.N.	= teacher to be designated
A	= autumn semester
S	= spring semester

Examination modalities in the case of online exam sessions

If an exam session has to be held online, the examination modalities mentioned in this study plan are maintained and will be following.

- For a written exam to be held during the exam session (1h, 2h or 3h), the online exam will be of the duration mentioned by the study plan. An exception is made when the same exam evaluates two or more different courses simultaneously (indicated as a common or grouped exam in the study plan). In this case, the courses will be examined separately when the exam takes place online. The duration of each part of the on-line exam will be defined by the number of ECTS each examined course. A single mark will be notified for any such split up exam, as specified by the study plan.
- For oral exams to be held during the exam session, the online duration of the exam is maintained as specified in the study plan.
- Continuous assessments (graded or ungraded) remain unchanged even if the exam session is taking place online. If required, the evaluation modality will be adapted to the situation. The course description will be updated accordingly by the teacher in charge.
- All exams and assessments that take place in other Faculties or Universities remain under their responsibility and the FS cannot be held liable for specific rules and regulations regarding those evaluations.