# Master of Science in Statistics
(from the academic year 2019)

## Curriculum M Sc in Statistics (90 ECTS)

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

### 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 | 2 | S | 3 | Dr. P.-Y. Deléamont | CA (graded)  
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 | 2+2 | S | 6 | Dr. C. Chevalier | Assist. | CA (graded)  
Module 3 - Elective courses | Choose 18 ECTS |  
Nonparametric statistics | 2 | A | 3 | Dr. P.-Y. Deléamont | CA (graded) |
Statistical learning | 2 | S | 3 | Dr. P.-Y. Deléamont | CA (graded)  
Computational statistics | 4 | S | 6 | Dr. 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 course (see list) | A or S | max. 6 |  |  |
### b) Master thesis or internship (30 ECTS)
Master thesis or internship with report | 30 ECTS |  

1. Subject to change
## Elective courses list (max. 6 ECTS)

<table>
<thead>
<tr>
<th>Elective courses</th>
<th>max. 6 ECTS</th>
<th>Hours per week</th>
<th>Semester</th>
<th>ECTS per module/course</th>
<th>Teacher(s)</th>
<th>Participant / contributor</th>
<th>Evaluation mode</th>
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<tbody>
<tr>
<td>Informatique générale: Programmation I (in French)</td>
<td></td>
<td>2+2</td>
<td>A</td>
<td>6</td>
<td>Prof. P. Felber</td>
<td></td>
<td>CA (graded)</td>
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<tr>
<td>Structure de données et algorithmique (in French)</td>
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<td>2+2</td>
<td>A</td>
<td>6</td>
<td>Dr. A. Sandoz</td>
<td>Assist.</td>
<td>CA (graded)</td>
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## Courses at the Faculty of Economics and Business

<table>
<thead>
<tr>
<th>Courses at the Faculty of Economics and Business</th>
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<tbody>
<tr>
<td>Probabilistic Algorithms</td>
<td>4</td>
<td>A</td>
<td>6</td>
<td>Dr. P. Cotofrei</td>
<td></td>
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<tr>
<td>Data Warehousing</td>
<td>4</td>
<td>S</td>
<td>6</td>
<td>Dr.I. Ciorascu</td>
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<td></td>
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<tr>
<td>Economic Statistics</td>
<td>2</td>
<td>A</td>
<td>3</td>
<td>Prof. M. Zarin</td>
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<td>Asset Pricing</td>
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<td>A</td>
<td>6</td>
<td>Prof. M. Dubois</td>
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<tr>
<td>Derivatives</td>
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<td>A</td>
<td>6</td>
<td>Prof. D. Ardia</td>
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<tr>
<td>Portfolio Optimization</td>
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<td>A</td>
<td>3</td>
<td>Prof. F. Sonney</td>
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<tr>
<td>Programming</td>
<td>2</td>
<td>S</td>
<td>3</td>
<td>Dr P. Cotofrei</td>
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<td></td>
<td>*</td>
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<tr>
<td>Applied Econometrics</td>
<td>2+2</td>
<td>S</td>
<td>6</td>
<td>Prof. M. Zarin</td>
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<td></td>
<td>*</td>
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<tr>
<td>Corporate Finance</td>
<td>4</td>
<td>S</td>
<td>6</td>
<td>Prof. C. Salva</td>
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<td>*</td>
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<tr>
<td>International Operations and Logistics</td>
<td>4</td>
<td>A</td>
<td>6</td>
<td>Dr.Y. Nieto</td>
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## Course at the Faculty of Arts

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<th>Course at the Faculty of Arts</th>
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<tr>
<td>Linguistique du français moderne: Linguistique de corpus: méthodes et analyse (In French)</td>
<td>2</td>
<td>S</td>
<td>5</td>
<td>Prof. C. Rossari</td>
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### Total of Master in Statistics 90 ECTS

**Abbreviations**

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

Report (graded)

* Check on course descriptive of the Faculty of Economics and Business of 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 registered in IS-Academia for both courses and exams

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