

Master in Statistics : General

Focus Research General

The Master in Statistics is a two-year programme organised into two 'blocks'. The first block includes (i) required courses, (ii) courses specific to each specialisation (theoretical statistics, applied statistics, or economics and statistics; see above), and (iii) possibly elective courses. The second block is more flexible, and includes the Master's dissertation (which may involve a work placement), participation to seminars, a course on statistical software applications, and several elective courses.

Bloc 1 | M-STATA | MA-STAT

Cours obligatoires

Remarque : en fonction du dossier de l'étudiant, le jury pourra être amené à remplacer certains cours du module ci-dessous par d'autres cours du programme

- STAT-F404 **Graduate statistics** | Thomas VERDEBOUT (Coordinator) and Davy PAINDAVEINE
⌚ 5 credits [lecture: 24h] 📅 first term 🗨 English
- STAT-F405 **Time series analysis** | Yves-Caoimhin SWAN (Coordinator)
⌚ 5 credits [lecture: 24h, tutorial classes: 12h] 📅 first term 🗨 English
- STAT-F407 **Stochastic models** | Maarten JANSEN (Coordinator) and Jennifer ALONSO GARCIA
⌚ 5 credits [lecture: 36h, tutorial classes: 12h] 📅 first term 🗨 English

An alternative chosen from the two following

Module 2

- ECON-S428 **Graduate econometrics I** | Germain VAN BEVER (Coordinator)
(optional) ⌚ 10 credits [lecture: 24h, tutorial classes: 24h] 📅 first term 🗨 English
- ECON-S429 **Graduate econometrics II** | Paula Eugenia GOBBI (Coordinator)
(optional) ⌚ 5 credits [lecture: 24h, tutorial classes: 24h] 📅 second term 🗨 English

or

Module 1



- MATH-F309 **Statistique mathématique II** | Thomas VERDEBOUT (Coordinator) and Sophie Niang
(optional) ⌚ 5 credits [lecture: 24h, tutorial classes: 24h] 📅 first term 🗨 French
- STAT-F406 **Modèles de régression** | Davy PAINDAVEINE (Coordinator)
(optional) ⌚ 5 credits [lecture: 24h, tutorial classes: 12h] 📅 second term 🗨 French
- STAT-F408 **Computational statistics** | Maarten JANSEN (Coordinator)
(optional) ⌚ 5 credits [lecture: 24h, tutorial classes: 12h, project: 100h] 📅 second term 🗨 English

An alternative chosen from the two following

Statistique

- STAT-F410 **Inférence robuste** | Catherine DEHON (Coordinator)
(optional) ⌚ 5 credits [lecture: 24h, tutorial classes: 12h] 📅 second term 🗨 French


STAT-F414 (optional) **Méthodes de sondage** | Catherine VERMANDELE (Coordinator)
5 credits [lecture: 24h, tutorial classes: 12h]  first term  French

STAT-F427 (optional) **Méthodes non paramétriques** | Catherine VERMANDELE (Coordinator)
5 credits [lecture: 24h, tutorial classes: 12h]  second term  French

STAT-S401 (optional) **Analyse statistique multivariée** | Catherine DEHON (Coordinator)
5 credits [lecture: 24h, tutorial classes: 12h]  second term  French


or

Economie et statistique

ECON-S427 (optional) **Graduate macroeconomics I** | Fabio Blasutto (Coordinator)
10 credits [lecture: 24h, tutorial classes: 24h]  first term  English


ECON-S430 (optional) **Graduate macroeconomics II** | Robert KOLLMANN (Coordinator)
5 credits [lecture: 24h, tutorial classes: 24h]  second term  English



ECON-S431 (optional) **Graduate microeconomics II** | Luca Paolo Merlino (Coordinator)
5 credits [lecture: 24h, tutorial classes: 24h]  second term  English

ECON-S510 (optional) **Graduate microeconomics I** | Georg KIRCHSTEIGER (Coordinator)
10 credits [lecture: 24h, tutorial classes: 24h]  first term  English


Cours optionnels



Au besoin, choisir un ou des cours dans la liste suivante afin d'arriver à un total de 60 crédits


BING-F4002 **Acquisition et analyse de données** | Marius GILBERT (Coordinator) and Marc DUFRENE
5 credits [lecture: 24h, tutorial classes: 36h]  first term  French

INFO-F422 **Statistical foundations of machine learning** | Gianluca BONTEMPI (Coordinator)
5 credits [lecture: 24h, tutorial classes: 12h, project: 60h]  second term  English



MATH-F425 **Ondelettes et applications**
5 credits [lecture: 24h, tutorial classes: 12h]  second term  French

STAT-F416 **Analyse des durées de vie** | William MALBECQ (Coordinator)
5 credits [lecture: 24h, tutorial classes: 12h]  second term  French



STAT-F418 **Topics in nonparametric smoothing** | Maarten JANSEN (Coordinator)
5 credits [lecture: 24h, tutorial classes: 12h]  first term  English
Ce cours n'est pas donné en 2023-24, 2025-26 etc.

STAT-F420 **Topics in mathematical statistics** | Thomas VERDEBOUT (Coordinator)
5 credits [lecture: 24h, tutorial classes: 12h]  first term  English

STAT-F421 **Topics in probability theory** | Yves-Caoimhin SWAN (Coordinator)
5 credits [lecture: 24h, tutorial classes: 12h]  second term  English
Ce cours n'est pas donné en 2024-2025, 2026-2027 etc.

STAT-F426 **Participation aux séminaires** | Maarten JANSEN (Coordinator)
5 credits [project: 60h]  first and second terms  French

STAT-F600 **Multivariate and high-dimensional statistics** | Thomas VERDEBOUT (Coordinator)
5 credits [lecture: 24h, practical work: 12h]  first term  English

TEMP-0000 **Cours extérieurs au programme**
5 credits  academic year  French

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Bloc 2 | M-STATA | MA-STAT

Cours obligatoires

- MEMO-F521 **Mémoire** | Maarten JANSEN (Coordinator)
 ⌚ 25 credits [mfe/tfe: 300h] 📅 first and second terms
- STAT-F413 **Statistical softwares** | Maarten JANSEN (Coordinator) and Toufik ZAHAF
 ⌚ 10 credits [lecture: 24h, tutorial classes: 24h, project: 200h] 📅 second term 🗨 English
- STAT-F509 **Participation aux séminaires** | Maarten JANSEN (Coordinator)
 ⌚ 5 credits [project: 60h] 📅 first and second terms 🗨 French

Cours optionnels

Compléter votre programme de façon à arriver à un total de 60 crédits en choisissant un ou plusieurs cours dans les listes du bloc 1 ou dans la liste suivante:

- ACTU-F401 **Modèles financiers I** | Griselda DEELSTRA (Coordinator)
 ⌚ 5 credits [lecture: 36h, tutorial classes: 12h] 📅 first term 🗨 French
- ACTU-F403 **Assurance non vie I** | Julien TRUFIN (Coordinator) and Céline AZIZIEH
 ⌚ 5 credits [lecture: 36h, tutorial classes: 12h] 📅 first term 🗨 French
- ECON-S432 **Advanced international trade** | Paola CONCONI (Coordinator) and Mathieu PARENTI
 ⌚ 5 credits [lecture: 24h] 📅 second term 🗨 English
- ECON-S513 **Behavioral economics** | Georg KIRCHSTEIGER (Coordinator)
 ⌚ 5 credits [lecture: 24h] 📅 second term 🗨 English
- ECON-S519 **Graduate microeconomics III** | Georg KIRCHSTEIGER (Coordinator)
 ⌚ 5 credits [lecture: 24h] 📅 first term 🗨 English
- ECON-S520 **Graduate macroeconomics III**
 ⌚ 5 credits [lecture: 36h] 📅 first term 🗨 English
- ECON-S521 **Graduate econometrics III** | David PREINERSTORFER (Coordinator)
 ⌚ 5 credits [lecture: 24h] 📅 second term 🗨 English
 Ce cours ne sera pas donné en 2022-2023.
- MATH-F502 **Imagerie et problèmes inverses** | Ignace LORIS (Coordinator)
 ⌚ 5 credits [lecture: 24h, tutorial classes: 12h] 📅 second term 🗨 French
- MATH-H401 **Numerical methods** | Artem NAPOV (Coordinator)
 ⌚ 4 credits [lecture: 24h, practical work: 24h] 📅 first term 🗨 English
- STAT-F415 **Calcul stochastique** | Antoine GLORIA (Coordinator), Clément Cerovecki and Griselda DEELSTRA
 ⌚ 5 credits [lecture: 24h] 📅 second term 🗨 French
- STAT-F428 **Bayesian Statistics**
 ⌚ 5 credits [lecture: 24h] 📅 first term
- STAT-F430 **Longitudinal data analysis**
 ⌚ 5 credits [lecture: 24h] 📅 first term
- STAT-F507 **Sequential analysis**
 ⌚ 5 credits [lecture: 24h] 📅 second term 🗨 English

STAT-Y002

Advanced probability

🕒 6 credits [lecture: 36h] 📅 first term 🗨 English

Autres cours

Outre les cours ci-dessus, l'étudiant peut également choisir parmi les cours non pris en Bloc 1. Des cours d'autres masters de l'ULB ou de masters d'autres universités peuvent également être choisis (sous réserve d'approbation par le Jury), pour un maximum de 60 crédits annuels.

An alternative chosen from the three following

HULB-0000 **Cours externe à l'Université**
(optional) 🕒 5 credits 📅 academic year

or

HULB-0000 **Cours externe à l'Université**
(optional) 🕒 10 credits 📅 academic year

or

One course chosen from the following

TEMP-0000 **Cours extérieurs au programme**
(optional) 🕒 5 credits 📅 academic year 🗨 French

TEMP-0000 **Cours extérieurs au programme**
(optional) 🕒 10 credits 📅 academic year 🗨 French

