








Specialized Master in data science, Big data













Unique year | MS-BGDA

Cours obligatoires

INFO-H600	Computing Foundations of Data Science Dimitrios SACHARIDIS (Coordinator) 5 credits [lecture: 24h, tutorial classes: 12h, practical work: 12h]  first term  English
MEMO-F541	Mémoire/ Stage en entreprise Thomas VERDEBOUT (Coordinator) 20 credits [mfe/tfe: 240h]  academic year
STAT-F600	Multivariate and high-dimensional statistics Thomas VERDEBOUT (Coordinator) 5 credits [lecture: 24h, practical work: 12h]  first term  English
STAT-S502	Data management and analytics Pierre DEVILLE (Coordinator) 5 credits [lecture: 36h, tutorial classes: 24h]  second term  English


Module 1 : Statistique

Two courses chosen from the following

INFO-F422 (optional)	Statistical foundations of machine learning Gianluca BONTEMPI (Coordinator) 5 credits [lecture: 24h, tutorial classes: 12h, project: 60h]  second term  English
STAT-F405 (optional)	Time series analysis Yves-Caoimhin SWAN (Coordinator) 5 credits [lecture: 24h, tutorial classes: 12h]  first term  English
STAT-F408 (optional)	Computational statistics Maarten JANSEN (Coordinator) 5 credits [lecture: 24h, tutorial classes: 12h, project: 100h]  second term  English
STAT-F420 (optional)	Topics in mathematical statistics Thomas VERDEBOUT (Coordinator) 5 credits [lecture: 24h, tutorial classes: 12h]  first term  English
STAT-F421 (optional)	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-F423 (optional)	Statistical learning 5 credits [lecture: 24h, tutorial classes: 12h]  second term  English

Module 2 : Informatique

Two courses chosen from the following

INFO-F424 (optional)	Combinatorial optimization Bernard FORTZ (Coordinator) and RENAUD CHICOISNE 5 credits [lecture: 24h, tutorial classes: 12h, practical work: 12h, project: 30h]  second term  English
INFO-F440 (optional)	Algorithms for big data John IACONO (Coordinator) 5 credits [lecture: 24h, tutorial classes: 12h, project: 60h]  second term  English

INFO-F524
(optional)

Continuous optimization | Bernard FORTZ (Coordinator) and Dimitrios PAPADIMITRIOU

⌚ 5 credits [lecture: 24h, project: 60h] 📅 second term 🗣 English

INFO-H423
(optional)

Data Mining | Mahmoud SAKR (Coordinator)

⌚ 5 credits [lecture: 24h, tutorial classes: 12h, practical work: 24h] 📅 first term 🗣 English

INFO-H501
(optional)

Pattern recognition and image analysis | Olivier DEBEIR (Coordinator) and Christine DECAESTECKER

⌚ 5 credits [lecture: 36h, practical work: 24h] 📅 second term 🗣 English

INFO-H512
(optional)

Current trends in artificial intelligence | Hugues BERSINI (Coordinator)

⌚ 5 credits [lecture: 24h, project: 30h] 📅 second term 🗣 English

INFO-H515
(optional)

Big Data: Distributed Data Management and Scalable Analytics | Dimitrios SACHARIDIS (Coordinator) and Gianluca BONTEMPI

⌚ 5 credits [lecture: 24h, tutorial classes: 12h, project: 24h] 📅 second term 🗣 English

Module 3 : Econométrie

One course chosen from the following

ECON-S428
(optional)

Graduate econometrics I | Germain VAN BEVER (Coordinator)

⌚ 5 credits [lecture: 24h] 📅 first term 🗣 English

GEST-S503
(optional)

Financial econometrics | Olivier SCAILLET (Coordinator)

⌚ 5 credits [lecture: 24h, tutorial classes: 12h] 📅 second term 🗣 English