

Specialized Master in data science, Big data

Unique year | MS-BGDA

Cours obligatoires

- INFO-H600 **Computing Foundations of Data Sciences** | 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)
⌚ 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)
⌚ 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 SCALLET (Coordinator)
⌚ 5 credits [lecture: 24h, tutorial classes: 12h] 📅 second term 🗨 English