

Informations related to the specialized Master in Data Science, Big data

General informations

The specialized master is a full-time one year program (60 credits, all the courses are in english). The lectures are provided during the day (not the evening). For students that are working at the same time, there is a possibility to split the program into two (or more) years in order to make it lighter.

More details on the program are available via the following page: <https://www2.ulb.ac.be/programme/MS-BGDA/index.html>

The Master in Data Science, Big data is a specialized master meaning in this case that **you already need to have a master degree to apply**. The access to the master is not guaranteed. Everybody needs to apply. To find a list of the documents one needs to attach to the application, please consult the ULB « service des inscriptions » or the following page: <https://www.ulb.be/fr/inscriptions/deposer-votre-candidature>

If you have have a master degree in Computer Sciences, Statistics, Mathematics, Economics, Engineer or Business Engineer, your chances to be enrolled are high. Nevertheless candidates with other master degrees can apply in particular if they can show a good background in Computer Sciences and/or Statistics. There is no other particular requirement to apply.

Please note that **the lectures are starting mid-september** so do not wait too much to apply.

If it is not clear for you that your diploma/background will make you eligible, please contact the ULB « service des inscriptions »: <https://www.ulb.be/fr/inscriptions/contacts>

To obtain informations related to the dates/**deadlines to apply**, please consult the following page: <https://www.ulb.be/fr/preparer-un-dossier/dates-de-depot>

To obtain informations about the **fees**, please consult the following page: <https://www.ulb.be/fr/inscriptions/frais-d-inscription>

Note in particular that the fees for EU students is 835 euros per year.

In case you want to split the program into two years, please consult <https://www.ulb.be/fr/inscriptions/frais-d-inscription> for the fees (equivalent to something between the fees for one year and the fees for two years).

Regarding the week-by-week **schedule** of the program, you will have three compulsory courses (2 in the first semester (Fall) and one in the second semester (Spring)). Then your program will strongly depend on your choice of optional courses (typically 5 other courses) so it can be more or less balanced between the two semesters. We apologize in advance but we can not provide precise schedules before registration since they can potentially change.

If you need other details, please **contact** our secretary Patricia Semeraro (patricia.semeraro@ulb.ac.be).

Informations related to internships

Students can choose between a classical master thesis or an internship in a company. In case of an internship, the minimal duration is not fixed. However, **a substantial report (minimum 40 pages) of internship** must be sent to the jury before the oral defense. Note that for an internship in a company, a « contract » between the company and the ULB must be signed. Please contact our secretary Patricia Semeraro for more details (patricia.semeraro@ulb.ac.be). We ask you to provide all the informations (thesis director, company, supervisor in the company, etc) regarding your thesis/internship for March 31 of the academic year. This is a deadline but we encourage you to take care of the administrative details as soon as possible. Please contact Patricia Semeraro to submit the documents or if you need more details (patricia.semeraro@ulb.ac.be).

ACADEMIC PROGRAM

Compulsory courses (15 credits)

- INFO-H600: Computing foundations of data science
- STAT-S600: Multivariate and high-dimensional statistics
- STAT-S502 : Data management and analytics

Module 1 (Statistics, two courses to choose)

- STAT-F405: Time series analysis 1
- STAT-F420 : Topics in Mathematical Statistics I or STAT-F421: Probability theory
- INFO-F422: Statistical foundations of machine learning
- STAT-F408: Computational Statistics

Module 2 (Computer Sciences, two courses to choose)

- INFO-H501: Pattern recognition and image analysis
- INFO-H512(WE-DINF12680): Current trends in artificial intelligence
- INFO-H515 : Big Data: Distributed Management and Scalable Analytics
- INFO-H423: Data Mining
- INFO-F424 : Combinatorial optimization
- INFO-F440: Algorithms for Big Data
- INFO-F524 : Continuous optimization

Module 3 (Econometrics, one course to choose)

- ECON-S428 : Graduate econometrics I
- GEST- S503: Financial econometrics

- **The student can choose between a master thesis and an internship (in a company) as described above.**