

MASTER IN DATA SCIENCE FOR BUSINESS (ADVANCED MASTER)

60 ECTS CREDITS – LANGUAGE: ENGLISH – DEGREE: MASTER OF SCIENCE

COURSE CONTENT

The goal of this programme is to create specialists in the domain of data analytics to support business strategy and decisions of the firm.

As a result, the profile of a typical DS4B graduate consists of three cornerstones:

- analytical mindset with a strong interest in data;
- hands-on experience that can readily be applied in business;
- the ability to translate complex marketing decision models to a business environment.

The programme has been training students since 1999, which makes it the longest-running (predictive) analytics programme in the world. Up till 2020, it was known as the 'Master of Science in Marketing Analysis'.

The programme addresses the needs of companies for better-educated staff with strong skills in the domain of analytical customer relationship management and business analytics. Thanks to information technology and the availability of market data both at the demand side (customer information, e.g. scanning data ...) and supply side (internal information about marketing actions, competitors ...), marketing as a discipline has evolved from a qualitative to a more quantitative discipline.

As a result, there is a strong need in the marketplace for people able to:

- control and cope with the huge amount of available data;
- generate and use models to translate these raw data into useful marketing information.

These people will be the interface between company management (e.g. product manager, marketing manager) and the suppliers of data within the organisation. Currently, departments are not facing the problem how to obtain data, but rather how to transform these massive amounts of data into useful information and systems.

One of the main topics in the program is analytical customer relationship management. We train students in the theoretical underpinnings but the main focus is on the practical skills of managing customer databases:

- acquisition (identifying and attracting new customers);
- cross/up-selling (profitable usage stimulation);
- retention (identifying customers who intend to attrite/churn and trying to keep profitable customers;
- recapturing 'lost' customers.

Next to the business content, a big focus is on computer programming. Students will become expert programming in the following open-source programming languages: Python, R, SQL and (Py)Spark.

The programme also includes specific courses on social media and web analytics, pricing and revenue management, and big data (Hadoop, Spark) technology.

Since 2017, we also added a Deep Learning course to the mandatory courses. This significantly ups the methodological part of the program. It requires prospective students to review their math skills (derivatives, gradient, hessian ...).

We require candidates to:

- score very high on an online statistics test (link to be found on our website: www.mma.ugent.be)
- have followed an R programming course (e.g. a freely available online course) and demonstrate their ability to use the language.

COURSE STRUCTURE

All students follow the same mandatory course schedule detailed on our website. From April on, all course work is suspended to fully concentrate on the project.

> Master's dissertation

The master's dissertation of the Master of Science in Data Science for Business consists of a real-life project for a company dealing with a specific marketing issue. A list of previous projects can be obtained from: www.mma.ugent.be/Projects.htm

CAREER PERSPECTIVES

The choice of engaging in a specific advanced master's programme is, even more than a master's programme, related to the question: "Which job(s) will I be trained for?". Fortunately, there is a broad variety of jobs for which students are trained.

About equal proportions of DS4B graduates are currently working in different areas of Business Analytics. Our graduates have made important contributions in the business world; at least two are CEOs of sizeable organisations. Fifteen MScMA graduates have pursued academic research careers and completed their PhDs (+ five are currently in progress). Five graduates have become analytics (assistant/associate/full) professors. In order to offer potential students more insights into the variety of functions, companies, industries, and even countries where our graduates are already present, some former students were very willing to share their experiences in this programme with – possibly – their future colleagues ... Their testimonials can be found at www.mma.ugent.be/mma.pdf (see middle section).

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TOELATINGSVOORWAARDEN VOOR HOUDERS VAN EEN VLAAMS DIPLOMA

Na geschiktheidsonderzoek *

of na een voorbereidingsprogramma:

- diploma van een masteropleiding aansluitend bij een bacheloropleiding *opleiding(en) oude structuur:*
 - academisch tweedecyclusediploma
 - tweedecyclusediploma hoger onderwijs van twee cycli
- * indien positief: rechtstreeks, zo niet: voorbereidingsprogramma*

TAAL

Je voldoet aan de taalvoorwaarden op basis van je Vlaams diploma.

PRAKTISCHE INFORMATIE

Studieprogramma:

<https://studiegids.ugent.be>

> faculteiten > opleidingstypes > ga naar de opleiding van je keuze

Infomomenten

Masterbeurs – www.ugent.be/masterbeurs

Studiegeld

Meer informatie vind je op:

www.ugent.be/studiegeld

Contact

Ghent University

Faculty of Economics and Business Administration

Department of Marketing

Programme Director: Prof. dr. Dirk Van den Poel

Campus Tweeherken, Tweeherkenstraat 2, 9000 Gent

T +32 (0)9 264 89 80 – dirk.vandenpoel@ugent.be

[mma@ugent.be](mailto:mmma@ugent.be) – www.mma.ugent.be

Last update: January 2020.

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ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

The target group consists of students with strong analytical skills with an interest in marketing business problems with prior knowledge in statistics and market(ing) research. Prior knowledge of (or strong interest in) computer programming is a plus.

Foreign students can apply if they have a four-year bachelor's degree. Admission is dependent on the study results of the student and the subjects taken.

LANGUAGE

More information regarding the required knowledge of English:
www.ugent.be/specificalanguage

PRACTICAL INFORMATION

Study programme

www.ugent.be/coursecatalogue
> by Faculty > Programme types > select your programme

Application deadline for international degree students

Aside from the standard application procedure, you are also required to complete and submit an information form on the Marketing Analysis webpage.

General deadlines:

- for students who need a visa: before 1st of March
 - for students who do not need a visa: before 1st of June
- www.ugent.be/deadline

Enrolling institution

Ghent University

Tuition fee

More information can be found on:
www.ugent.be/tuitionfee

MASTER

GENERAL COURSES	18
Social media and web analytics	5
Marketing information systems – database marketing	5
Analytical customer relationship management	8
ELECTIVE COURSES	21
Advanced predictive analytics	7
Pricing and revenue management	7
Advanced methods of market research	7
Strategic brand communications	7
MASTER'S DISSERTATION	21

Contact

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