

MASTER OF SCIENCE IN BUSINESS ENGINEERING (DATA ANALYTICS)

120 ECTS CREDITS - LANGUAGE: ENGLISH

INHOUD

The Master of Science in Business Engineering is a programme in business administration that focuses on (data-driven) management science, business processes and technology. These three disciplines are educated throughout the two-year master programme in different manners through theoretical lectures, practical case studies and business games as well as guest speakers and company projects. The master's programme teaches these disciplines both in a theoretical and a practice-oriented way.

The specific content of the study that links business analytics and business processes with technology helps to translate processes into business models and organisational structures into information systems. Business transactions within a single company and between companies in a supply chain, that include processes and the logistical flow of products, services and/or information, are studied thoroughly by data analysis techniques, conceptual or mathematical modelling techniques and techniques of decision making.

These tools support the efficient organisation of resources in companies towards its common goals and objectives.

Where the Bachelor of Science in Business Engineering mainly lays the (quantitative) foundation, the master programme studies different aspects of these subdisciplines in a more applied manner. The specific content of the study that links business analytics and business processes with technology helps to translate processes into business models and organisational structures into information systems. Business operations within a single company and between companies in a supply chain, that encompass processes and the logistical flow of products, services and/or information, are studied thoroughly by data analysis techniques, conceptual or mathematical modelling techniques and techniques of decision making. These tools support the efficient organisation of resources in companies towards its common goals and objectives.

Students can specialise and choose one of three main subjects: Data Analytics - Finance - Operations Management. The discipline **Data Analytics** mainly emphasises 'Business Intelligence' and refers to the analysis of business data to uncover hidden patterns, unknown correlations and other useful information that can be used to make better business decisions. McKinsey and Gartner claim that there is an enormous shortage of graduates in this field. Due to the more quantitative schooling of business engineers, emphasis is placed on price-fixing, analytical customer management systems (analytical Customer Relationship Management = aCRM), predictive and prescriptive analytics as well as more recent evolutions in Big Data, social media and web analysis.

STRUCTUUR

The link between management science, business processes and technology returns throughout the master's programme. In this perspective, attention is spent to the management of an organisation, its resources and its business processes by means of courses like Strategic Management, Human Resource Management, Business Process Management, etc.

The technology component in the course is further widened by the topics of Technology for the Circular Economy and System Dynamics and the link between these technology courses and business management is further treated in the courses in Financing High Tech Entrepreneurial Companies, Technology Entrepreneurship, Innovation Management and Enterprise Architecture.

Different management science principles are discussed and maintained throughout these courses including mathematical modelling, statistics and numerical algorithms to improve an organisation's ability to enact rational and meaningful management decisions.

If you want to combine your master's degree with a **teacher's degree**, then there is the option of following an 'Educatieve master' instead of the above described master. The 'Educatieve master' however is a Dutch taught programme. More information can be found on www.ugent.be/educatievemaster.

ARBEIDSMARKT

With a degree in Business Engineering you can follow different career paths. With their strong foundation in business economics, their broad knowledge of new technologies and their strong focus on quantitative analytics in production, services, logistics, marketing and finance, business engineers understand better than anyone else how to improve the efficiency in the various parts of a company's logistic chain.

Their job deals with managing production processes and services, with analytical and quantitative tasks to improve its overall efficiency. As a bridge builder between business economists and engineers, they are able to optimise the decision making process at various levels of the company, ranging from operational decisions on the work floor to strategic decisions at the top level of the company. As an economic agent, they are familiar with the company processes in order to perform cost price calculations, but as an engineer they also have a much wider overview on the company's logistic processes and their potential for improvements. With their essential knowledge of the latest technologies and their strong background in business analytics, business engineers rely on the state-of-the-art ICT concepts to optimise the business processes. This essential

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skill is embedded in almost every course of Business Engineering curriculum and will be key to today's modern international business strategy.

Some examples of jobs in which Business Engineering graduates start: production manager, logistics director, production planning expert, business consultant, business analyst, process engineer, research & development manager and customer relationship manager.

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TOELATINGSVOORWAARDEN VOOR HOUDERS VAN EEN VLAAMS DIPLOMA

1 Rechtstreeks:

- Bachelor handelsingenieur
- Bachelor handelsingenieur in de beleidsinformatica
- Bachelor in de toegepaste economische wetenschappen: handelsingenieur
- Bachelor in de toegepaste economische wetenschappen: handelsingenieur in de beleidsinformatica
- Master handelsingenieur
- Master handelsingenieur in de beleidsinformatica
- Master in de toegepaste economische wetenschappen: handelsingenieur in de beleidsinformatica
- Master of Business and Information Systems Engineering
- Master of Business Engineering: Business and Technology

2 Na het met succes voltooien van een voorbereidingsprogramma:

MIN 29 SP - MAX 61 SP

- Engelstalig programma
 - Bachelor in de economische wetenschappen
 - Bachelor in de handelswetenschappen
 - Bachelor in de sociaal-economische wetenschappen
 - Bachelor in de toegepaste economische wetenschappen
 - Bachelor in de toegepaste economische wetenschappen: bedrijfskunde
 - Bachelor in de toegepaste economische wetenschappen: economisch beleid
 - Bachelor of Business Administration
 - Master in de economische wetenschappen
 - Master in de handelswetenschappen
 - Master in de sociaal-economische wetenschappen
 - Master in de toegepaste economische wetenschappen
 - Master in de toegepaste economische wetenschappen: bedrijfskunde
 - Master in de toegepaste economische wetenschappen: economisch beleid
 - Master of Business Administration
 - Master of Business Economics
 - Master of Economics

MIN 40 SP - MAX 69 SP

- Engelstalig programma
 - Bachelor in de bio-ingenieurswetenschappen
 - Bachelor in de computerwetenschappen
 - Bachelor in de informatica

- Bachelor in de wiskunde
- Bachelor of Environmental Technology
- Bachelor of Food Technology
- Bachelor of Molecular Biotechnology
- Een diploma van een opleiding 'Bachelor of Science in de industriële wetenschappen'
- Een diploma van een opleiding 'Bachelor of Science in de ingenieurswetenschappen' (met inbegrip van 'architectuur')
- Een diploma van een opleiding 'Master of Science in de bio-ingenieurswetenschappen' leidend tot de titel van 'bio-ingenieur'
- Een diploma van een opleiding 'Master of Science in de industriële wetenschappen'
- Een diploma van een opleiding 'Master of Science in de ingenieurswetenschappen' leidend tot de titel van 'burgerlijk ingenieur' (incl. architectuur)
- Master in de informatica
- Master in de ingenieurswetenschappen: architectuur
- Master in de wiskunde

ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

- The course is open to students with a least a bachelor degree.
 - The Business Engineering programme consists of five learning trajectories. These trajectories should be present in the candidates' educational background in order to be eligible for the master programme:
 - 1 economics and business economics trajectory: microeconomics, macroeconomics, accounting, marketing, etc.
 - 2 quantitative trajectory: mathematics, calculus, algebra, etc.
 - 3 methodological trajectory: statistics, econometrics, operations research, etc.
 - 4 technical and technological trajectory: electrical and electronics engineering, materials science, mechanical and civil engineering, etc.
 - 5 trajectory operations and information management: production technology, business information systems, etc.
- For more information about the required student profile, check the faculty's website:
<https://www.ugent.be/eb/en/degree-students/overview-prospective-students.htm>
Information on admission requirements and the administrative procedure for admission on the basis of a

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diploma obtained abroad, can be found on the following page: www.ugent.be/prospect/en/administration/enrolment-or-registration.

For students who wish to enroll in this master based on a **Flemish degree**: www.ugent.be/eb/nl
For students who wish to enroll in this master based on a **non-Flemish degree**: www.ugent.be/eb/en

LANGUAGE REQUIREMENTS

Language requirements Dutch: no language requirements
English: CEFR level B2

The language requirements for this study programme can be found on: www.ugent.be/languagerequirements

PRACTICAL INFORMATION

Study programme

studiekiezer.ugent.be/master-of-science-in-business-engineering-data-analytics-en/programma

Information sessions

Graduation Fair

afstudeerbeurs.gent/en/students/further-studies

Open Days

25 June 2022 - 10u00 - 12u30 - - Campus Tweekerken, Tweekerkenstraat 2, 9000 Gent

Application Deadline (for International degree students)

For students who **need a visa**: before 1st of April

For students who **do not need a visa**: before 1st of June

Read more

Tuition fee

More information is to be found on: www.ugent.be/tuitionfee

Contact

For students who wish to enroll in this master based on a

Flemish degree: contact Frauke Cuelenaere via

traject.eb@ugent.be

For students who wish to enroll in this master based on a **non-**

Flemish degree: contact Laura Haek via degree.eb@ugent.be