

MASTER OF SCIENCE IN BUSINESS ENGINEERING (OPERATIONS MANAGEMENT)

120 ECTS CREDITS - LANGUAGE: ENGLISH

WHAT

The Master of Science in Business Engineering is a multidisciplinary programme that focuses on data-driven management science, business processes, and technology. These three core disciplines are integrated throughout the two-year curriculum through a combination of theoretical lectures, practical case studies, business games, guest lectures, and company projects. The programme delivers a strong balance between theoretical foundations and practical, real-world applications. While the Bachelor of Science in Business Engineering primarily provides a quantitative foundation, the Master's programme explores the aforementioned subdisciplines in a more applied and in-depth manner. By linking business analytics and business processes with technology, the programme equips students with the skills to translate business processes into effective business models and organisational structures into information systems. Using data analysis, conceptual and mathematical modelling, and decision-making techniques, students analyse business operations both within individual organisations and across supply chains. These operations include the processes and logistical flows of products, services, and information. The acquired techniques support the efficient organisation of resources, enabling companies to achieve their strategic goals and objectives.

Students specialise in one of three main areas: **Data Analytics, Finance, or Operations Management.**

The **Operations Management** main subject is a management discipline focused on the design, oversight, and control of service and production processes, as well as the continuous improvement of business operations. It emphasises the efficient use of resources while ensuring that customer needs are met effectively and consistently.

The discipline addresses process management across the entire transformation cycle, from the conversion of various inputs—such as raw materials, labour, and energy—into outputs in the form of goods and/or services. Key business concepts, including Project Management, Total Quality Management, Production Management, and Supply Chain Management, are examined from multiple perspectives, providing students with a comprehensive understanding of how operational excellence can be achieved within organisations.

STRUCTURE

The integration of management science, business processes, and technology is a central theme throughout the Master's curriculum. This is reflected in course units focusing on organisational management, resource allocation, and business processes, such as Strategic Management, Human Resource Management, and Business Process Management.

The technological dimension of the programme is further strengthened through courses such as Technology for the Circular Economy and System Dynamics. The interaction between technology and business management is explored in courses including Financing High-Tech Entrepreneurial Companies, Technology Entrepreneurship, Innovation Management, and Enterprise Architecture.

Across these course units, key principles of management science are consistently applied, including mathematical modelling, simulation, statistics, and numerical algorithms. These methods enhance an organisation's capacity to make rational, informed, and impactful management decisions.

If you want to combine a 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/educatievemaister.

It is possible to participate in a double degree programme with the Université de Liège or the University of Porto or the University of Tartu (Estonia). In a double degree programme students receive a degree of both the home and the host university. .

LABOUR MARKET

A degree in Business Engineering opens up a wide range of career opportunities. With a strong foundation in business economics, broad knowledge of emerging technologies, and a strong focus on quantitative analytics in production, services, logistics, marketing, and finance, business engineers are uniquely equipped to improve efficiency across the various components of a company's logistics and value chains.

Graduates typically pursue roles that involve managing and optimising production processes and services, applying analytical and quantitative

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methods to enhance overall organisational efficiency. Acting as bridge builders between business economists and engineers, they optimise decision-making at different levels of the organisation, ranging from operational decisions on the shop floor to strategic decisions at board level.

As economic agents, business engineers have a thorough understanding of company processes, enabling them to perform accurate cost calculations.

As engineers, they adopt a broader systems perspective, allowing them to identify inefficiencies and improvement opportunities within complex logistical processes. Their essential knowledge of the latest technologies, combined with a strong background in business analytics, enables them to apply state-of-the-art ICT concepts to optimise business processes. These competencies are embedded in almost every course unit of the Business Engineering curriculum and are essential in today's modern, international business environment.

Typical career paths for Business Engineering graduates include roles such as production manager, logistics director, and supply chain consultant, where they ensure efficient and effective operations. Others pursue careers as process engineers or operations analysts, focusing on streamlining workflows and enhancing organisational productivity.

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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
- Bachelor of Business Engineering
- 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 63 SP

- a 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
 - Bachelor of Business Economics
 - Educatieve master in de economie, afstudeerrichting: economische wetenschappen
 - Educatieve master in de economie, afstudeerrichting: handelswetenschappen
 - Educatieve master in de economie, afstudeerrichting: toegepaste economische wetenschappen
 - Master in de economische

wetenschappen

- 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 Economics
- Master of Economics

MIN 29 SP - MAX 77 SP

- a Engelstalig programma
 - Master in de handelswetenschappen
 - Master of Business Administration

MIN 40 SP - MAX 77 SP

- a Engelstalig programma
 - Bachelor in de bio-ingenieurswetenschappen
 - Bachelor in de computerwetenschappen
 - Bachelor in de fysica
 - Bachelor in de fysica en de sterrenkunde
 - Bachelor in de informatica
 - Bachelor in de wiskunde
 - Bachelor of Engineering Technology
 - 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 Bioscience Engineering' leidend tot de titel van 'bio-ingenieur'
 - 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.

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- architectuur)
- Master in de fysica en Master in de fysica en de sterrenkunde
- Master in de informatica
- Master in de ingenieurswetenschappen: architectuur
- Master in de wiskunde

ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

- The programme is open to students with at least a bachelor degree that consists of the six learning trajectories that are present in Ghent University's bachelor in business engineering 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 operations and information management trajectory: production technology, business information systems, etc.
 - 6 Informatics trajectory: informatics, object-oriented programming, algorithms and data structures, database systems, etc.
- For more information about the required student profile, check the faculty's website: <https://www.ugent.be/eb/en/study-programmes/master-in-business-engineering/overview.htm>
- The Faculty of Economics and Business Administration requires a GMAT or GRE test score for all applicants who received their degree outside of the EEA (European Economic Area). Applicants who fail to submit a GMAT or GRE test score, will not be considered for academic admission. Students who obtained their degree from a university located in an EEA-country are exempted from this requirement, but are still strongly advised to add a GMAT or GRE test score to their application file. The faculty will be granting 3 scholarships to students with outstanding scores on the GMAT or GRE test. Information on admission requirements and the

administrative procedure for admission on the basis of a diploma obtained abroad, can be found on the following page: www.ugent.be/prospect/en/administration/enrolment-or-registration.

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/language requirements

PRACTICAL INFORMATION

Study programme

studiekiezer.ugent.be/master-of-science-in-business-engineering-operations-management-en/programma

Information sessions

EVOLV

evolv.gent/en/students/further-studies

Enrolling institution

Information on enrolment at Ghent University.

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: traject.eb@ugent.be

For students who wish to enroll in this master based on a **non-Flemish degree**: international.eb@ugent.be.

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www.ugent.be/eb/en 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