Master in Business engineering

Programme mnemonic
MA-INGE
Focus Professional: M-INGEF

Studies level
Master 120 credits

Learning language
English and French

Schedule
Office hours

Studies category / subcategory
Economics and business management / Business management

Campus
Solbosch

Programme objectives
This very intensive and demanding programme, prepares future executives, leaders, and entrepreneurs who can work in any type of industry and organisation—for-profit, non-profit, or public. Students in this programme develop the ability to understand and engage in all areas of business administration. A business engineer is able to integrate all main functions and departments of an organisation and to arbitrate between them. Students develop their knowledge and know-how in all fields of management (strategy, finance, marketing, human resources and leadership, operations and supply-chain, innovation, information systems, and digital business), while also learning key skills involved in defining a strategy, enacting changes, or creating a business: information analysis, problem solving, project leadership, personnel management, communication, ethics in business, critical thinking, entrepreneurial drive, team work, and self-management.

Programme’s added value
What the Solvay Brussels School has to offer

An international faculty with a staff of high-level researchers and accomplished practitioners, who work together to ensure that the training they provide is both relevant for business and policy practice and corresponds to the state of art.

A tradition of rigorous and demanding curricula based on solid multidisciplinary and analytical training, promoting critical thinking and problem-solving skills.

A diversity of teaching methods that are constantly revised to ensure teaching effectiveness.

A diverse and international student body (up to 80% in some Master programmes).

A offering covering economics and business from the bachelor to in-company training.

Accreditation from EQUIS (European Foundation for Management Development) and AMBA (Association of Masters of Business Administration). AACSB (Association to Advance Collegiate Schools of Business) accreditation is underway.

Career services
SBS-EM offers its students a number of resources for career development:

Credited work placements [http://www.solvay.edu/credited-internship-programme] (full-time, 3-month minimum – 6-month maximum) allow participating students to gain work experience, apply their academic training, and develop their professional network before graduation.

Career services [http://www.solvay.edu/career-services] provide practical guidance and preparation for the job market (workshops, writing a CV and a cover letter, simulated interviews, LinkedIn profile management, etc.) and organise events (lectures and seminars) with prominent business figures, presenting companies and their employment opportunities. Over the years, the SBS-EM has developed a wide network of recruiters and alumni and has established contacts with companies throughout Belgium and around the world.

From their graduation onwards, students benefit from a strong and active alumni network [http://www.solvay.edu/alumni] with 23,000 members in 100 countries.

Study-abroad programmes
The Master in Business Engineering offers several opportunities to study abroad:
The international exchange programme [http://www.solvay.edu/outgoing-students], with more than 130 partner universities in 40 countries.

The double degree [http://www.solvay.edu/credited-internship-programme] specialised in Operations Management, with the Politecnico di Milano.

The Master with the QTEM network [https://www.qtem.org/]

Teaching methods

SBS-EM programmes emphasise the acquisition of both analytical and problem-solving skills. They combine conceptual courses—where students learn techniques and their theoretical underpinnings—with practical workshops and individual and team-based projects—where students can test their understanding of the theory and develop their ability to apply it creatively to real problems. Critical, creative, and independent thinking is required.

SBS-EM leverages its wide-ranging international exchange programmes to offer students training opportunities abroad during their studies. This Master also gives students the possibility to include a credited work placement in their curriculum.

Succeed in your studies

Choose
The information and guidance counsellors at the InfOR-études [https://www.ulb.be/en/studies-info-desk-1] service will help you choose your studies throughout the year.

Succeed

Get help
Apply for financial aid, look for accommodation or a student job, get support [https://www.ulb.be/fr/aides-services-et-accompagnement/aid-services-and-support-1] for your specific needs.

International/Openness

SBS-EM prepares its graduates for careers in multicultural and international environments. The curriculum includes language courses, which enable students to work in multilingual environments. Most courses cover the international dimensions of policy and management decision-making. Lastly, students can avail themselves of a rich offering of study-abroad and joint degree programmes. These international experiences offer them an opportunity to enrich their curriculum and broaden their horizons, and are an essential element of professional life in a globalised world.

International Exchange Programme

Students may spend one semester abroad in one of our 130 partner universities. For more information, visit www.solvay.edu/outgoing-students.

Double Degree with the Politecnico di Milano, specialised in Operations Management

The Master in Business Engineering offers a double degree (1st year at ULB, 2nd year at the partner institution) with the Politecnico di Milano [https://www.polimi.it/en/], Italy. This programme includes a credited work placement. For more information, visit www.solvay.edu/double-degrees.

The QTEM networked master
Qualified students in the Master in Business Engineering can enrol in the Quantitative Techniques for Economics and Management (QTEM) Master programme. The QTEM master gives participants enhanced training in quantitative and analytical skills and two international experiences (two exchange periods or one exchange period and one long-term work placement). The QTEM network currently includes 23 partners. For more information, visit www.qtem.org.

Job opportunities

The comprehensive and multivalent nature of our programme lets graduates access a wide range of careers, from consulting and auditing to executive positions. Essentially, ULB’s business engineers are ready to carry out any mission fostering collaborative work and innovation, which means jobs that require management and decision making skills:

- Executive positions in any type of organisation (public, private, or NGO) and industry
- Management, strategy, and IT consulting
- Entrepreneurship
- Auditing or management control
- Financial analysis and mergers and acquisitions (M&A)
- Brand management

Notable alumni include:

- Hadi Kamouh, Group Chief Marketing Officer, Banque Degroof Petercam
- Dominique Leroy, Chief Executive Officer, Proximus
- Jean-Michel Paul, Founder & CEO, Acheron capital Ltd.
- Nicolas Steisel, Co-founder, Exki
- Jean Van Wetter, Chief Executive Officer, Handicap International Belgique

Contacts

masters.solvay@ulb.be
+32 2 650 41 74
http://www.solvay.edu/bachelors-masters

Jury President
Hugues PIROTTE

Jury Secretary
Olivier WITMEUR
Master in Business engineering
Focus Professional

The programme integrates key differentiating courses reinforcing the links between the two disciplines of business development and engineering, to shape the business engineers of tomorrow.

The programme consists in:

1. A strong core of compulsory courses in the main disciplines of management (45 ECTS).
2. An international experience through either (i) an international exchange in the very rich list of other universities, or (ii) an international traineeship (25 ECTS).
3. Two applied seminars, representing practical experience: a field project and a strategy seminar (10 ECTS).
4. Two elective course pairs to be freely chosen among a rich catalog of course pairs, each one focusing on a particular metier (20 ECTS).
5. A final master’s thesis, integrating a development course (20 ECTS).

**Bloc 1 | M-INGEF | MA-INGE**

### Mandatory Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Coordinator(s)</th>
<th>Credits</th>
<th>Lecture Hours</th>
<th>Tutorial Hours</th>
<th>Project Hours</th>
<th>Term</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEST-S403</td>
<td>Advanced Marketing (Chaire InBev-Baillet Latour)</td>
<td>Sandra ROTHENBERGER (Coordinator)</td>
<td>5</td>
<td>36</td>
<td></td>
<td></td>
<td>first</td>
<td>English</td>
</tr>
<tr>
<td>GEST-S406</td>
<td>Advanced Strategy</td>
<td>Timo Ehrig (Coordinator) and François FAELLI</td>
<td>5</td>
<td>36</td>
<td></td>
<td></td>
<td>second</td>
<td>English</td>
</tr>
<tr>
<td>GEST-S407</td>
<td>Operations management</td>
<td>Evelyne VANPOUCKE (Coordinator)</td>
<td>5</td>
<td>24</td>
<td>12</td>
<td></td>
<td>first</td>
<td>English</td>
</tr>
<tr>
<td>GEST-S408</td>
<td>Advanced Finance</td>
<td>Hugues PIROTTE (Coordinator)</td>
<td>5</td>
<td>36</td>
<td>24</td>
<td></td>
<td>first</td>
<td>English</td>
</tr>
<tr>
<td>GEST-S409</td>
<td>Advanced accounting</td>
<td>Pierre-Hugues BONNEFOY CUDRAZ (Coordinator) and Jean-Paul LOOZEN</td>
<td>5</td>
<td>36</td>
<td>24</td>
<td></td>
<td>first</td>
<td>English</td>
</tr>
<tr>
<td>GEST-S414</td>
<td>Banking and asset management</td>
<td>Griselda DEELSTRA (Coordinator) and Mathias SCHMIT</td>
<td>5</td>
<td>36</td>
<td>24</td>
<td></td>
<td>first</td>
<td>English</td>
</tr>
<tr>
<td>GEST-S482</td>
<td>The digital firm</td>
<td>Nicolas VAN ZEEBROECK (Coordinator) and Vincent LION</td>
<td>5</td>
<td>36</td>
<td>24</td>
<td></td>
<td>first</td>
<td>English</td>
</tr>
<tr>
<td>GEST-S566</td>
<td>Advanced entrepreneurship</td>
<td>Olivier WITMEUR (Coordinator), Benjamin BEECKMANS and Bruno WATTENBERGH</td>
<td>5</td>
<td>24</td>
<td></td>
<td></td>
<td>second</td>
<td>English</td>
</tr>
</tbody>
</table>

**Competences**

Take 20 credits by choosing freely 2 pairs of courses, among the following competences*

*When a proposed pair contains 3 courses, please choose only 2

1. Finance, Accounting and Control (FAC)
2. Entrepreneurship, Strategy and Governance (ESG)
3. Technology and Operations Management (TOM)
4. Marketing (MKTG)

A total of 20 credits chosen from the following
### FAC - Module 1

**Two courses chosen from the following**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Coordinator</th>
<th>Credits</th>
<th>Lecture Hours</th>
<th>Semester</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEST-S400</td>
<td>Market and Corporate Accounting</td>
<td>BRUNO COLMANT</td>
<td>5</td>
<td>36h</td>
<td>2nd</td>
<td>English</td>
</tr>
<tr>
<td>GEST-S446</td>
<td>Comptabilité des coûts</td>
<td>OLIVIER CHRISTOPHE and Katty IMBERECHTS</td>
<td>5</td>
<td>24h, 24h</td>
<td>2nd</td>
<td>French</td>
</tr>
<tr>
<td>GEST-S485</td>
<td>Advanced management control</td>
<td>Fouad ELOUCH</td>
<td>5</td>
<td>24h</td>
<td>2nd</td>
<td>English</td>
</tr>
</tbody>
</table>

### FAC - Module 2

**Two courses chosen from the following**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Coordinator</th>
<th>Credits</th>
<th>Lecture Hours</th>
<th>Semester</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEST-S466</td>
<td>La criminalité financière dans le monde de l'entreprise</td>
<td>Pierre-Hugues BONNEFOY CUDRAZ</td>
<td>5</td>
<td>24h</td>
<td>2nd</td>
<td>French</td>
</tr>
<tr>
<td>GEST-S486</td>
<td>Enterprise-wide and sustainability-wise risk management</td>
<td>Pierre Poncelet</td>
<td>5</td>
<td>24h</td>
<td>2nd</td>
<td>English</td>
</tr>
<tr>
<td>GEST-S501</td>
<td>Audit</td>
<td>Romuald BILEM</td>
<td>5</td>
<td>24h</td>
<td>2nd</td>
<td>French</td>
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</table>

### FAC - Module 3

**Two courses chosen from the following**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Coordinator</th>
<th>Credits</th>
<th>Lecture Hours</th>
<th>Semester</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEST-S428</td>
<td>Corporate governance and Stewardship (Chaire Léo Goldschmidt)</td>
<td>Marco BECHT</td>
<td>5</td>
<td>24h</td>
<td>2nd</td>
<td>English</td>
</tr>
<tr>
<td>GEST-S506</td>
<td>Capital markets &amp; investment banking</td>
<td>CHRISTIAN DE HAAJ</td>
<td>5</td>
<td>48h</td>
<td>2nd</td>
<td>English</td>
</tr>
</tbody>
</table>

### FAC - Module 4

**Two courses chosen from the following**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Coordinator</th>
<th>Credits</th>
<th>Lecture Hours</th>
<th>Semester</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEST-S497</td>
<td>Modélisation mathématique en finance</td>
<td>Carolina Laureti</td>
<td>5</td>
<td>24h</td>
<td>2nd</td>
<td>French</td>
</tr>
<tr>
<td>GEST-S503</td>
<td>Financial econometrics</td>
<td>Olivier SCAILLET</td>
<td>5</td>
<td>24h, 12h</td>
<td>2nd</td>
<td>English</td>
</tr>
<tr>
<td>GEST-S531</td>
<td>Financial history</td>
<td>Kim OOSTERLINGCK</td>
<td>5</td>
<td>24h</td>
<td>2nd</td>
<td>English</td>
</tr>
</tbody>
</table>

### FAC - Module 5

**Two courses chosen from the following**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Coordinator</th>
<th>Credits</th>
<th>Lecture Hours</th>
<th>Semester</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEST-S569</td>
<td>Derivatives, Financial risk management &amp; Governance</td>
<td>Hugues PIROTTE and Frédéric VAN DER SCHUEREN</td>
<td>10</td>
<td>54h, 24h</td>
<td>2nd</td>
<td>English</td>
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### FAC - Module 6

**Two courses chosen from the following**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Coordinator</th>
<th>Credits</th>
<th>Lecture Hours</th>
<th>Semester</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEST-S4007</td>
<td>Impact Investing</td>
<td>Céline VAESSEN and BRUNO FARBER</td>
<td>5</td>
<td>24h</td>
<td>2nd</td>
<td>English</td>
</tr>
</tbody>
</table>
Promotion & Investissement Immobiliers: Principes fondamentaux | Gaëtan PIRET (Coordinator)
5 credits [lecture: 36h]  second term  French

Innovation strategy | Manuel HENSMANS (Coordinator)
5 credits [lecture: 36h]  second term  English

Energy policy, sustainability & management | Adel EL Gammal (Coordinator), Julien BLONDEAU and Michel HUART
5 credits [lecture: 36h, seminars: 24h]  first term  English

Seminar of emerging technologies | Marc BECQUET (Coordinator)
5 credits [seminars: 24h]  second term  English

The CEO Perspective | Pierre GURDJIAN (Coordinator)
5 credits [lecture: 48h]  second term  English

Managing errors in organisations (Chaire InBev Baillet Latour) | Paul VERDIN (Coordinator)
5 credits [lecture: 48h]  second term  English

Negotiation Skills | Claudia TOMA (Coordinator) and Avi Goldstein
5 credits [lecture: 24h, seminars: 12h]  first term  English
50 étudiants maximum pour ce cours.

Management and sustainable development : constraints and opportunities | Eric MONAMI (Coordinator)
5 credits [lecture: 36h, seminars: 36h]  second term  English

Energy policy, sustainability & management | Adel EL Gammal (Coordinator), Julien BLONDEAU and Michel HUART
5 credits [lecture: 36h, seminars: 24h]  first term  English

Research Seminar in Business History (Chaire Kurgan-van Hentenryk) | Julien del Marmol (Coordinator) and Kenneth BERTRAMS
5 credits [lecture: 24h]  second term  English

Advanced Data Science and Machine Learning | Pierre DEVILLE (Coordinator)
5 credits [lecture: 36h, tutorial classes: 12h, project: 12h]  second term  French

Analyse statistique multivariée | Catherine DEHON (Coordinator)
5 credits [lecture: 24h, tutorial classes: 12h]  second term  French

Two courses chosen from the following

IP Management and Technology Transfer (Chaire Solvay) | Bruno VAN POTTELSBERGHE (Coordinator)
5 credits [lecture: 24h, tutorial classes: 12h]  second term  English

Project management | FREDERIC HOFFMANN (Coordinator)
5 credits [lecture: 24h]  second term  English/French

Design methodology | Alain DELCHAMBRE (Coordinator)
5 credits [lecture: 24h, tutorial classes: 24h, personal assignments: 12h]  first term  English

Choose 2 out of 3

Choose 2 out of 3
Two courses chosen from the following

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Coordinator</th>
<th>Credits</th>
<th>Lecture</th>
<th>Term</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEST-S440</td>
<td>Applied marketing analytics</td>
<td>Sandra ROTHENBERGER</td>
<td>5</td>
<td>48</td>
<td>2</td>
<td>English</td>
</tr>
<tr>
<td>GEST-S441</td>
<td>Global marketing</td>
<td>Virginie BRUNEAU</td>
<td>5</td>
<td>24</td>
<td>2</td>
<td>English</td>
</tr>
<tr>
<td>GEST-S442</td>
<td>Value-based pricing</td>
<td>Sandra ROTHENBERGER</td>
<td>5</td>
<td>24</td>
<td>2</td>
<td>English</td>
</tr>
<tr>
<td>GEST-S491</td>
<td>Omnichannel &amp; customer relationship strategies</td>
<td>Virginie BRUNEAU</td>
<td>5</td>
<td>24</td>
<td>2</td>
<td>English</td>
</tr>
<tr>
<td>GEST-S508</td>
<td>Integrated communication - Communication intégrée : concepts et travaux pratiques</td>
<td>Philippe BILTIAU, HUGUES REY</td>
<td>5</td>
<td>24</td>
<td>2</td>
<td>English</td>
</tr>
</tbody>
</table>
Mandatory courses

**MEMO-S505**

Master-Thesis/Mémoire | Olivier WITMEUR (Coordinator)
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20 credits [mfe/tfe: 360h]  
First and second terms  
English/French

International Internship or Exchange programme

**HULB-S500** | Coordinatrice Tamara Schuller

**STAG-S500** | Coordinatrice Pascaline Flon.

One course chosen from the following

- **HULB-S500** (optional)
  - Exchange programme
  
- **STAG-S500** (optional)
  - Credited internship with a critical mindset  
  Jean-Nicolas Lambert (Coordinator), Xavier CLABOTS, Brigitte Marchand and Claudio Truzzi

Courses depending on the timing of your Exchange/Internship

One course chosen from the following

- **GEST-S4005** (optional)
  - Comportement organisationnel, leadership et éthique des affaires  
  Michel VERSTRAETEN (Coordinator), Marek HUDON and Coline Serres

- **GEST-S488** (optional)
  - Comportement organisationnel, leadership et éthique des affaires  
  Michel VERSTRAETEN (Coordinator), Laurence BOOGAERTS and Marek HUDON

Seminar and Field project

Seminar

You will be assigned to one of the following seminars

One course chosen from the following

- **GEST-S500** (optional)
  - Seminar of Business Strategy  
  STEFAN DAB (Coordinator)

- **GEST-S524** (optional)
  - Seminar of Business Strategy  
  Karim CHOUIKRI (Coordinator)

- **GEST-S525** (optional)
  - Seminar of Business Strategy  
  STEFAN DESCHEEMAEKER (Coordinator)
Field Project

One course chosen from the following

- **GEST-S522** (optional)  
  **Field project: Finance** | STEFAN DAB (Coordinator)  
  5 credits [seminars: 12h]  
  academic year  
  English

- **GEST-S523** (optional)  
  **Field project: Marketing**  
  5 credits [seminars: 12h]  
  academic year  
  English/French

- **GEST-S527** (optional)  
  **Field project: Organisation** | Denis HERBAUX (Coordinator)  
  5 credits [seminars: 12h]  
  academic year  
  English/French

- **GEST-S528** (optional)  
  **Field project: Healthcare** | Philippe VAN WILDER (Coordinator)  
  5 credits [seminars: 12h]  
  academic year  
  English/French

- **GEST-S529** (optional)  
  **Field project: Human Resources** | Lucy VAN HOVE (Coordinator)  
  5 credits [seminars: 12h]  
  academic year  
  English

- **GEST-S530** (optional)  
  **Field project: IT governance** | Georges ATAYA (Coordinator)  
  5 credits [seminars: 12h]  
  academic year  
  English/French

- **GEST-S538** (optional)  
  **Field project** | Hugues PIROTTE (Coordinator) and Olivier WITMEUR  
  5 credits [seminars: 12h]  
  first and second terms

- **GEST-S562** (optional)  
  **Field project: Finance**  
  5 credits [seminars: 12h]  
  academic year  
  English

- **GEST-S563** (optional)  
  **Field project: Non profit** | Nicolas JANSSEN (Coordinator)  
  5 credits [seminars: 12h]  
  academic year  
  English/French

QTEM student specific course

GEST-S510  - Global Business analytics Challenge  - 8 crédits  -  M. Michele Cincera et M. Antonio Pacífico