



Programme Syllabus

Master's Programme in Innovation Management (150 credits)

**Masterprogram i Innovation Management
(150 högskolepoäng)**

Established by: Pro-Vice-Chancellor and the Deans

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Programme code: IYAIV

Adopted by: Pro-Vice-Chancellor and the Deans

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Reg no: BTH-4.1.13-0559-2026

Applies to students admitted: autumn 2026

Part 1 — Description of the degree programme

Entry requirements

Admission to the degree programme requires:

Bachelor's degree in a technical field corresponding to at least 180 credits.

Mathematics 18 credits, Statistics 5 credits, Programming 5 credits, Industrial Economics and/or Management 20 credits, out of which 6 credits in Microeconomics. English 6.

Outcomes and content

The Master's Programme in Innovation Management provides in-depth knowledge of the conditions for and carrying out of product, process and service development in companies.

Most of the programme's courses are given in the main field of study Industrial Economics and Management, which covers the value creation in technology-intensive companies, as well as its management and control. Courses in the main field of study Mechanical Engineering and the subject statistics also occur. The programme concludes with a master's thesis, which must be based on current research and literature or empirical studies.

The goal is that the student upon completion of the studies will be able to work innovatively in their profession and be well prepared for work in the private and public sectors, as well as for doctoral studies.

National outcomes

Knowledge and understanding

For a Degree of Master (120 credits) the student shall:

- demonstrate knowledge and understanding in the main field of study, including both broad knowledge of the field and a considerable degree of specialised knowledge in certain areas of the field as well as insight into current research and development work, and
- demonstrate specialised methodological knowledge in the main field of study.

Competence and skills

For a Degree of Master (120 credits) the student shall:

- demonstrate the ability to critically and systematically integrate knowledge and analyse, assess and deal with complex phenomena, issues and situations even with limited information,
- demonstrate the ability to identify and formulate issues critically, autonomously and creatively as well as to plan and, using appropriate methods, undertake advanced tasks within predetermined time frames and so contribute to the formation of knowledge as well as the ability to evaluate this work,
- demonstrate the ability in speech and writing both nationally and internationally to clearly report and discuss his or her conclusions and the knowledge and arguments on which they are based in dialogue with different audiences, and
- demonstrate the skills required for participation in research and development work or autonomous employment in some other qualified capacity.

Judgement and approach

For a Degree of Master (120 credits) the student shall:

- demonstrate the ability to make assessments in the main field of study informed by relevant disciplinary, social and ethical issues and also to demonstrate awareness of ethical aspects of research and development work,
- demonstrate insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used, and
- demonstrate the ability to identify the personal need for further knowledge and take responsibility for his or her ongoing learning.

Content

The first year in the programme focuses on conditions for innovation and process innovation within manufacturing. Regarding conditions for innovation, the student learns about methods for evaluating which investment to make and how to raise capital for those. Regarding process innovation the student is trained in how to use

quantitative techniques to evaluate needs for digitizing, optimizing and automating production processes. Ability to model and critically reflect upon existing production systems configuration and restrictions constitute other key contents. Two courses in statistics and data analysis aim to provide students with skills in evaluating and modelling conditions for and consequences of process innovation. The first year concludes with a project course where students evaluate a company's current needs for and opportunities for process innovation.

Year two focuses on deepening the student's abilities to evaluate supporting and hindering conditions for innovation, and to train the student's skills in carrying out and managing product and service innovation projects. Regarding conditions for innovation, the student is trained in analyzing how technology shifts and industrial dynamics alter firm conditions for innovating. In carrying out innovation projects the student learns about different strategies for leading and managing such ventures, as well as strategies for commercializing new products and services. Innovation in the form of new start-up companies is moreover delved into. Courses in scientific methodology and advanced data analysis during the second year of the programme aim to develop the student's ability to participate in and pursue research projects.

The degree programme concludes in semester 5 with a master's thesis in the main field of study Industrial Economics and Management, which is usually carried out in close collaboration with industry or within the framework of a research project.

The courses and their positions in the degree programme are presented in Part 2.

The degree programme undergoes continuous evaluation and development, which may result in changes in offered courses.

Implementation and instruction/teaching

The programme has been designed to gradually develop the knowledge and skills of students, particularly in the main field of Industrial Economics and Management. This knowledge is put into practice in several problem-oriented learning activities and learning situations, both during the first year of the education, which is carried out at *Università degli studi di Bergamo*, UniBg, and in the later part of the education, which is carried out at BTH. For more information on this, see section "Collaborations with other higher education institutes".

Learning activities and teaching elements during the programme include lectures, seminars, workshops, laboratory sessions, report writing and student presentations individually as well as in groups, as well as guest lectures and project work in collaboration with companies and organizations.

The objectives of the programme are achieved through the courses included in the programme. Assessment and examination are done at course level. Course objectives, examination and assessment are described in each course syllabus.

The degree programme is taught in English.

The university's perspectives

At the university, several perspectives are central - partly to strengthen the strategic focus and profile, and partly to meet the legal requirements that apply to education. At BTH, the perspectives of responsible academia, innovative development, and collaboration are integrated into all degree programmes. Programme managers and teachers work continuously to weave these perspectives into the content of the programmes.

Collaborations with other higher education institutions

The degree programme is carried out in collaboration between BTH and UniBg in the form of a double-degree programme. The collaboration takes place in accordance with the established agreement between the higher education institutions (Reg no: BTH-6.2.1-0226-2025). The agreement stipulates, among other things, the following:

- Each of the two higher education institutions annually admits students to the double-degree programme in accordance with what is prescribed.
- The completion of studies takes place in accordance with current national and local regulations at the respective higher education institutions.
- UniBg awards a Master's degree in Production Systems and BTH awards a Master's degree in Innovation Management.
- Annual joint follow-up of the programme takes place in collaboration between the two higher education institutions.

After completing the programme according to this programme syllabus, the student can apply for a degree from BTH but also from UniBg. For more information on this, see section "Degree".

The first year of the programme consists of the following courses given at UniBg.

Study period 1

Corporate Finance, 6 credits, AXX, the course is not included in any main field of study at BTH. Only part of the degree issued by UniBg

Financial Markets, 6 credits, AXX, the course is not included in any main field of study at BTH. Only part of the degree issued by UniBg

Operations Management, 6 credits, AXX, Industrial Economics and Management, Technology, compulsory

Study period 2

Integrated Production Systems, 6 credits, AXX, Industrial Economics and Management Technology, compulsory

Industrial Economics, 6 credits, AXX, Industrial Economics and Management, Technology. Only part of the degree issued by UniBg

Study period 2–3

Continuous Improvement and Quality Management, 6 credits, AXX, Industrial Economics and Management, Technology. Only part of the degree issued by UniBg

Study period 3

Project management, 12 credits, AXX, Industrial Economics and Management, Technology, compulsory

Data Analysis for Business Analytics, 6 credits, AXX, Industrial Economics and Management, Technology, compulsory

Study period 4

Statistics for Digital and Organizational Innovation, 6 credits, AXX, Industrial Economics and Management, Technology, compulsory

The following course taken at BTH during years 2 and 3 of the programme will only be part of the degree awarded by UniBg:

Project Management in Business Analytics, 6 credits, A1F, Industrial Economics and Management.

Part 2 of this programme syllabus states which courses are part of the degree awarded by BTH.

Conditions for participation in programme courses

In order to participate in the courses of the degree programme, the student must be admitted and registered on the courses. In order to be admitted to compulsory or elective courses, the student must be eligible, i.e. meet the course's entry requirements, no later than at the start of the course. Eligibility checks are carried out before each course starts.

The number of seats on elective courses within the programme may be limited. If there are too few applicants, an elective course may be cancelled.

Degree

After completing the studies, the student can apply for a degree. In order to obtain the degree stated below it is required that the objectives for qualifications in accordance with the Higher Education Ordinance have been achieved as well as the requirements stated in the Local Degree Ordinance at BTH have been met.

The programme leads up to the following second-cycle degree:

Degree of Master of Science (120 credits)
Main field of study: Industrial Economics and Management
Specialization: Innovation Management

After completing their studies, the student also can apply for the following degree at UniBg:

Degree of Master of Science (120 credits)
Main field of study: Management Engineering
specialization: Production Systems

Part 2 — Courses in the programme

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Admitted: autumn 2026

The name of the course	Course code	Credits	Autumn Sp1	Autumn Sp2	Spring Sp3	Spring Sp4
Education year 1						
Exchange Studies, UniBg Industrial Economics and Management, Second cycle; AXX	UB0001 ¹	60	X	X	X	X
Education year 2						
Technology venture 1: Innovation and Business Development Industrial Economics and Management, Second cycle, A1N	IY2649	6	X			
Productivity and Technological Change Industrial Economics and Management, Second cycle, A1N	IY2639	6	X	X		
Advanced Research Method and Design Industrial Economics and Management, Second cycle, A1N	IY2638	6		X		
Technology venture 2: Commercialization of Innovations Industrial Economics and Management, Second cycle, A1F	IY2650	6		X		
ICT Startups and High-Tech Entrepreneurship Industrial Economics and Management, Second cycle, A1N	IY2645	6			X	X
Advanced Econometrics Industrial Economics and Management, Second cycle; A1N	IY2637	6			X	
Project Management in Business Analytics Industrial Economics and Management, Second cycle, A1F	IY2646 ²	6			X	X
Business Strategies for Digital Transformation Industrial Economics and Management, Second cycle; A1N	IY2652	6				X

¹ For more information about the studies at UniBg, see the section "Collaborations with other higher education institutions".

² This course is not compulsory for a degree at BTH.

Applied Competition and Market Analysis Industrial Economics and Management, Second cycle; A1N	IY2648	6				X
Elective courses education year 2						
Innovation Engineering Mechanical Engineering, Second cycle, A1N	MT2586	6	X			
Model-Driven Design for Product-Service Systems Mechanical Engineering, Second cycle, A1N	MT2590		X			
Education year 3						
Master's Degree project in Industrial Economics and Management Industrial Economics and Management, Second cycle, A2E	IY2651	30	X	X		