



UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

Programme Syllabus
for
Master of Science in
Innovation and Industrial Management

120 higher education credits

Second Cycle

Established by the Faculty Board of the School of Business, Economics and Law, University of Gothenburg, on January 28, 2008, last revised on June 15, 2010.

1. Decision and Guidelines

The study programme for the Master of Science in Innovation and Industrial Management, 120 higher education credits (equals 120 ECTS credits), was established by the Faculty Board of the School of Business, Economics and Law on January 28, 2008 and last revised on June 15, 2010. The programme syllabus applies as from autumn term of 2010.

2. General Objectives

Second cycle education shall according to the Swedish Higher Education Act (HEA) build on knowledge that students acquire in first cycle education or corresponding knowledge (see Appendix 1, HEA, ch. 1:9) The general objectives for a Master (120 credits) are stated in Appendix 2, the Higher Education Ordinance (see Appendix 1).

3. Programme Specific Objectives (learning outcomes)

After successfully completing the programme the student should be able to;

- quickly identify, thoroughly comprehend, critically assess, correctly apply, and creatively integrate existing scientific knowledge that can be used for analyzing problems within the area of Innovation and Industrial Management
- apply and integrate their knowledge for designing, validating and selecting solutions for complex problems within the area of Innovation and Industrial Management in business and public organizations.
- have a thorough overview of the structure of research and design processes in order to:
 - properly break up own research and design activities in designing solutions for complex problems,
 - and to apply empirical research methods to critically analyze the research, results and implications of the phenomena under study.
- apply general skills in communication (writing, oral presentation), project management both autonomously and in groups, to search and assess information, and is able to reflect on personal and professional development.

Hence, by attending this master programme, the student will learn relevant concepts and tools to achieve the overall objectives of analyzing problems and designing solutions for organizations operating in changing markets and with evolving technologies. The student will also learn principles (concepts and criteria) and

procedures (methods and techniques/tools) for balancing between long-term strategic and short-term operational objectives.

4. Organisation

All Graduate School programmes are managed by the Dean of the Graduate School while the operational responsibility rests with the Director of Studies. Each Graduate School programme has a programme coordinator and an advisory programme committee responsible for programme and course content.

5. Programme Disposition and Content

The disposition applies to students admitted 2010 and onwards (for disposition regarding students admitted 2009, see Appendix 2).

Year 1

Autumn Term		Spring Term	
Period 1	Period 2	Period 3	Period 4
Innovation Management 7,5 hec	Graduate Econometrics, 7,5 hec	Thematic Studies in Industrial Dynamics, 7,5 hec	Elective 7,5 hec
New concepts in operations management and services 7,5 hec	Strategic Management in knowledge-based organizations 7,5 hec	Risk Management and Finance, 7,5 hec	Elective 7,5 hec

Year 2

Autumn Term		Spring Term	
Period 1	Period 2	Period 3	Period 4
Elective 7,5 hec	Innovation and Structural Transformation 7,5 hec	Master Degree Project (thesis), 30 hec	
Elective 7,5 hec	Research Methods in Innovation and Industrial Management 7,5 hec		

The electives are tentative depending upon faculty changes and number of registered students and may vary from year to year.

The programme covers four academic terms of full-time study (120 higher education credits) including three terms of courses (90 higher education credits) and one term of Master Degree Project 30 higher education credits (thesis writing). The programme comprises core courses, including methods, elective courses and Master Degree Project. Core courses are programme specific and include courses in methods with the emphasis on quantitative and qualitative analysis. Elective courses from other master programmes, or in special cases, and only after permission granted by the Graduate School, second cycle courses at other universities may be an option.

Each term is divided into two periods, each course is 7.5 higher education credits, except where noted.

This Innovation and Industrial Management Programme includes core (required) courses as well as electives (recommended and open). Individual course syllabi are available separately.

Core (Required) Courses for all students

Innovation Management (7.5 higher education credits)

New concepts in operations management and services (7.5 higher education credits)

Graduate Econometrics (7.5 higher education credits)

Strategic Management in knowledge-based organizations (7.5 higher education credits)

Thematic Studies in Industrial Dynamics (7.5 higher education credits)

Risk Management and Finance (7.5 higher education credits)

Innovation and Structural Transformation (7.5 higher education credits)

Research Methods in Innovation and Industrial Management (7.5 higher education credits)

Elective courses:

Below follow examples of courses that could be selected within the programme. The options can vary from year to year, depending upon demand and resources. The Master Coordinator will provide the list of definitive sets of electives in advance. Note that many courses have pre-requisites!

Innovation Management and projects

R&D strategy & organization (Chalmers)

Management & economics of innovation project course (Chalmers)

Strategic Management Accounting

Change Management

Corporate Governance and Financial Structure

Production, purchasing and logistics

Operational management accounting

Applied Enterprise Systems

Strategic Supply Chain Logistics Management

Retailing, Wholesaling and Logistics

International Trade and Logistics

Financial Management and industrial economics

Corporate Valuation

Financial Institutions and Markets

Advanced Corporate Finance

Advanced Industrial Economics I

Advanced Industrial Economics II

Additional electives / Study Abroad (all students)

Students may take additional electives. Students can also apply to study abroad, see separate document. After permission granted by Graduate School, students whom study abroad can substitute equivalent courses to required one, if needed.

Only students with very good study results at the Graduate School, excellent English language proficiency and a clear purpose for their exchange period will be permitted to study as exchange students at our partner universities.

Program Objectives

The Innovation and Industrial Management (IIM) programme is concerned with analyzing problems and designing solutions for organizations operating in changing markets with evolving technologies.

Its overall objective is to provide theories, methods and tools to students as potential managers in organizations operating under uncertainty in complex and rapidly changing markets and technologies.

Modern companies face complex industrial and financial challenges of doing business domestically as well as internationally. Companies face particular demands in adapting to these technological, financial, consumer and other changes, in ways which positively affect their future profitability and competitiveness. Global competition requires organizations to develop internal and external analysis of industrial processes and market conditions with particular emphasis on innovation, industrial dynamics and investments.

The IIM programme therefore focuses upon management within the frameworks of short-term and long-term investment in relation to industrial dynamics and innovation. The rationale for combining these frameworks is that organizations make trade-offs between 'efficiency' and 'innovation'. The modern manager must learn to utilize and mobilize existing resources for current activities, at the same time as he/she must develop existing and new resources to develop new businesses, services, and the like, through internal and external processes.

In order to successfully implement a new strategic, tactical or operative business plan resources must be available in the right amounts, at the right time, and to the right capital costs in order to increase efficiency and effectiveness of the organization. The timing of financial funding is as important as the timing of purchasing, production and sales activities. In terms of an industrial dynamics and innovation framework, modern managers are involved in the longer-term development of the services and products. They therefore need to make decisions about innovation processes, business development, and intrapreneurship (entrepreneurship inside the organization). Different types of ideas and knowledge are becoming increasingly valuable to the organization – but using them to renew the business require analysis and planning to identify, implement, and test those ideas. Ignoring renewal and innovation poses long-term threats to the survival of, in particular, the large organization.

Hence, the IIM programme rests on the general understanding that modern managers in business firms and public organizations need to take both insider and outsider perspectives into consideration. Special emphasis is put on those concepts, principles and procedures that are central for analyzing problems and designing solutions involving long, medium and short-term time horizons.

6. Tuition and Examination

The language of instruction is English. Courses will include lectures, seminars and case studies. The students will also work together in small groups, according to educational principles such as problem-based learning, experiential learning and action learning. Group reports will be assessed and graded individually, as will individual term papers and individually written exams.

The courses will be examined separately. Each course is graded with Pass with Distinction (väl godkänd, VG), pass (godkänd, G) or fail (underkänd, U). Grades are translated with a set model where the grades correspond to the following intervals according to EGIS (ECTS Grade Interpretation Scheme):

Pass with Distinction (väl godkänd, VG)	A-B
Pass (godkänd, G)	C-E
Fail (underkänd, U)	FX-F

The Graduate School is obliged to offer the exam at least five times during the course of each two year period. Students who have made five unsuccessful attempts to pass an exam have lost the possibility of obtaining the Master of Science Degree.

7. Admission Requirements and Selection Process

The applicant must hold the minimum of a Bachelors degree¹ (i.e. the equivalent of 180 ECTS credits) at an accredited university. The university has to be listed in the latest edition of the International Handbook of Universities² (please note, all credits need to be from an accredited university). The applicant's university education must include a minimum of 90 ECTS credits in a major subject and a thesis, term paper or equivalent proof of proficiency in academic writing, a minimum of 15 ECTS credits in Statistics as well as the programme specific entrance requirements, or equal qualification as assessed by the Graduate School. Furthermore, a valid GMAT (Graduate Management Admission Test) score is required.

English Proficiency Requirements

The applicant must prove English proficiency by one of the following:

- TOEFL IBT (internet based)
- TOEFL (computer based)
- TOEFL (paper based)
- IELTS

For information about required test results, please see admission information on Graduate School's webpage: www.handels.gu.se/gs

This requirement does not apply to students with a Bachelors Degree, based upon at least 3 years of full-time studies, from an education with English as the only language of instruction (with the exception of applicants with a Bachelors Degree

¹ The equivalent to a Swedish Bachelors Degree depends on 1) Length of education 2) grade/division/class of your total degree.

² <http://www.unesco.org/iau/onlinedatabases/list.html>

from Pakistan and Bangladesh), or to students having passed English level B at the Swedish Upper Secondary School.

Programme Specific Entrance Requirements

A). The applicant's university education must include a minimum of 60 ECTS credits in one, or a combination, of the following subject areas: Business Administration, Industrial Management and Engineering, and Economics. Priority will be given to eligible students with courses in areas of Industrial Management, Innovation Management and Entrepreneurship, Finance, Production and Operations Management, Mathematics/Statistics, and Operations Analysis.

Or

B). The applicant's university education must include at least a Bachelors degree (i.e. the equivalent of 180 ECTS credits at an accredited university) in Engineering, Natural Science or Law and also a minimum of 15 ECTS credits in one, or a combination, of the following subject areas: Business Administration, Industrial Management and Engineering, and Economics. Priority will be given to eligible students with courses in areas of Industrial Management, Innovation Management and Entrepreneurship, Finance, Production and Operations Management, Mathematics/Statistics, and Operations Analysis.

The admission requirements listed above apply for admission to the programme. For continued studies within the programme individual courses have specific requirements, as provided in each course outline.

Selection Process

The selection process is based on the applicant's GMAT score.

Should the situation arise that a group ties due to equal qualifications, selection is made according to the applicant's first choice of programme. If this process does not resolve the tie, a final selection is made by ballot.

8. Degree Certificate and Degree Title

Upon completion (receiving a minimum grade of Pass) of all the courses and the degree project, and fulfillment of the requirements given above, students will receive a Master of Science (120 credits) with a major in Innovation and Industrial Management.

9. Programme Evaluation

All courses in the programme will be anonymously evaluated by the students upon completion. The results of the evaluation will be communicated to the students and will function as a guide for the development of the course and of the programme.