



Curriculum for the Master Programme in Global Innovation Management

Aalborg University
September 2016

Preface

Pursuant to Act 261 of March 18, 2015 on Universities (the University Act) with subsequent changes, the following curriculum for the Master programme in Global Innovation Management is stipulated. The programme also follows the Joint programme regulations and the Examination Policies and Procedures for the Faculty of Engineering and Science.

Table of contents

Chapter 1: Legal Basis of the Curriculum, etc.....	3
1.1 Basis in Ministerial Orders	3
1.2 Faculty Affiliation.....	3
1.3 Board of Studies Affiliation.....	3
1.4 External Examiners.....	3
Chapter 2: Admission, Degree Designation, Programme Duration and Competence Profile..	4
2.1 Admission	4
2.2 Degree Designation.....	4
2.3 The Programme’s Specification in ECTS Credits	4
2.4 Competence Profile of the Programme.....	4
Chapter 3: Content and Organisation of the Programme	5
3.1 Program Overview	6
3.2 Global Innovation Management, 3 rd semester	8
3.2.1 Global Innovation Management – Industrial Application	8
3.2.2 Operations Development and Strategy (5 ECTS).....	9
3.3.1 Master’s Thesis (30 ECTS).....	10
Chapter 4: Entry into Force, Interim Provisions and Revision	11
Chapter 5: Other Provisions.....	11
5.1 Rules concerning Written Work, including the Master’s Thesis	11
5.2 Rules for Examinations.....	11
5.3 Exemption.....	11
5.4 Additional Information	11

Chapter 1: Legal Basis of the Curriculum, etc.

1.1 Basis in Ministerial Orders

The Master's programme in Global Innovation Management is organised in accordance with the Ministry of Science, Innovation and Higher Education's Order no. 1520 of December 16, 2013 on Bachelor's and Master's Programs at Universities (the Ministerial Order of the Study Programs) and Ministerial Order no. 670 from June 19 2014 on University Examinations (the Examination Order) with subsequent changes. Further reference is made to Ministerial Order no. 258 of March 18, 2015 (the Admission Order) and Ministerial Order no. 114 from February 3 2015 (the Grading Scale Order) with subsequent changes.

1.2 Faculty Affiliation

The Master's programme falls under The Faculty of Engineering and Science, Aalborg University.

1.3 Board of Studies Affiliation

The Master's programme falls under the Board of Studies of Industry and Global Business Development under the School of Engineering and Science.

1.4 External Examiners

The programme is affiliated to Ingeniøruddannelsernes landsdækkende censorkorps (maskin).

Chapter 2: Admission, Degree Designation, Programme Duration and Competence Profile

2.1 Admission

Admission to the Master programme in Global Innovation Management requires:

- A Bachelor's degree or equivalent, at second-class level or higher, in an engineering, science or technology subject
- An appropriate level of competence in the English language, through attaining IELTS 6.5 or TOEFL 232/95

2.2 Degree Designation

The Master programme entitles the graduate to the designation Master of Science (MSc) in Engineering (Global Innovation Management) (joint degree).

2.3 The Programme's Specification in ECTS Credits

The Master programme is a 2-year, research-based, full-time study programme. The programme is set to 120 ECTS credits.

2.4 Competence Profile of the Programme

The graduate of the Master programme:

Knowledge

- Has knowledge in the following subject areas that, in selected areas, is based on the highest international research in a subject area
 - Enterprise Engineering and Design
 - Operations Development and Strategy
 - Innovation and Change Management
 - Global Performance Management
 - Business Intelligence
 - Global Implementation.
- Can understand and, on a scientific basis, reflect over the subject area's(s') knowledge and identify scientific problems.

Skills

- Excels in analysing complex business problems, designing new innovative business solutions, scientific methods and tools, and general skills related to employment within Global Innovation Management
- Can evaluate and select among the subject area's(s') scientific theories, methods, tools and general skills and, on a scientific basis, advance new analyses and solutions
- Can communicate research-based knowledge and discuss professional and scientific problems with both peers and non-specialists.

Competencies

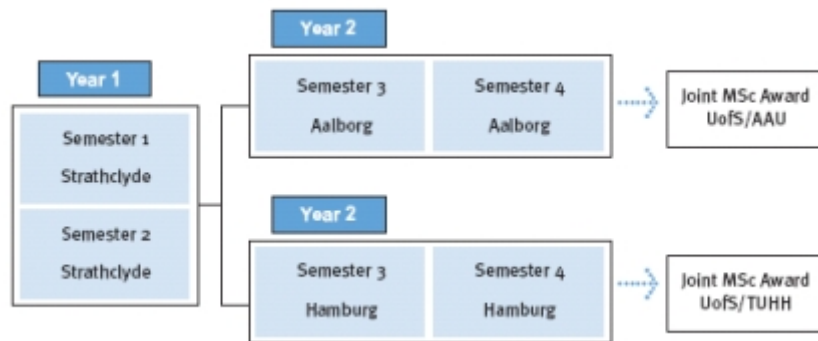
- Can manage work and development in complex and unpredictable situations requiring new solutions
- Can independently initiate and implement discipline-specific and interdisciplinary cooperation and assume professional responsibility
- Can independently take responsibility for own professional development and specialisation

Chapter 3: Content and Organisation of the Programme

The Master of Science in Global Innovation Management (GIM) is a unique 2-year programme offered jointly by the Department of Design Manufacture and Engineering Management (DMEM) at the University of Strathclyde (Scotland), The centre of Industrial Production at Aalborg University (Denmark) and The Institute of Technology and Innovation Management at Hamburg University of Technology (Germany), which enables graduates of first degrees in engineering, science and technology to successfully manage the innovation process across international boundaries.

Students study at two European Universities with the programme's delivery over two years providing a greater depth of learning, more industrial engagement and a rich cultural experience.

The programme is fulltime over 24 months and divided into 4 semesters of study.



All students take a common first year at the University of Strathclyde, then select to deepen study at Hamburg or apply skills and knowledge in an industrial internship at Aalborg, followed by finalizing their Master theses. The programme is delivered in English and intended for excellent graduates of first degrees in Engineering, Science and Technology. The MSc award is made jointly by the University of Strathclyde and the second year institution.

The 3rd semester at Aalborg University is allocated to gaining practical international experience. The semester will enable students to appreciate theoretical reflective work practice and cultural challenges. The aim of the semester is to

1. Gain practical experience within the subject field
2. Analyse and reflect on educational experiences and professional practice
3. Clarify the Master's Thesis topic.

The 3rd semester project is carried out in collaboration with a global company while the student is working there. The purpose of this semester is to design and execute an individual project study within the topics of the programme. This will enable student to demonstrate proficiency in innovation and integration processes as well as management and implementation of technological and organisational change projects.

During the 4th semester at Aalborg University, the Master's Thesis is completed. The Master's Thesis may be combined with the 3rd semester in an extended Master's Thesis.

3.1 Program Overview

Semester		Module		ECT S	Grading	Exam
1.-2. (Strathclyde)	Compulsory courses	Product Development project 2	56502 Product Development Project 2 2012-2013	10		
		Design Management	EF927 Design Management 2012-2013	6		
		Global Design	DM503 Global Design 2012-2013	5		
		Management of Innovation	DM981 Management of Innovation 2012-2013	5		
		Strategic Technology Management	DM920 Strategic Technology Management 2012-2013	6		
		Supply Chain Operations	DM926 Supply Chain Operations 2012-2013	6		
	Optional courses	Design for Manufacture and Assembly	56405 Design for Manufacture and Assembly 10	5		
		Design Methods	DM934 Design Methods 2012-2013	6		
		People Organisation & Technology	DM918 People Organisation and Technology 2012-2013	6		
		Management of Tot. Quality & Continuous Improvement	DM935 Management of Total Quality and Continuous Improvement 2012-2013	6		
		Product Design and Techniques	DM924 Product Design Techniques 2012-2013	6		
		Design Project 1	56412 Design Project 1 (MEng) 11	10		
		Manufacturing Systems Design and Management	56419 Manufacturing Systems Design and Management 10	5		
		Enterprise Resource Planning	DM928 Enterprise Resource Planning 2012-2013	6		
		Strategic Supply Chain Management	DM927 Strategic Supply Chain Management 2012-2013	6		
		Product Costing and Financial Management	DM944 Product Costing and Financial Management 2012-2013	6		
		Engineering Risk Management	DM933 Engineering Risk Management 12-13	6		
Professional Practice	56408 Professional Practice 11	5				

		Sustainable Product Design Techniques	DM943 Sustainable Product Design and Manufacturing 12-13	5		
		Systems Thinking and Modelling	DM945 Systems Thinking and Modelling 2012-2013	5		
		Product Modeling and Visualization	DM 923 Product Modeling & Visualisation	5		
		Design Form and Aesthetics	DM 983 Design Form and Aesthetics	5		
		Human Centred Design	DM 984 Human Centred Design	5		
		Advanced Materials and Production Technology	DM 948 Advanced Materials and Production Technology	5		
3. (Aalborg)		Innovation Pilots		25	7-point scale	Internal
		Operations Development and Strategy		5	7-point scale	Internal
4. (Aalborg)		Master's Thesis		30	7-point scale	External

3.2 Global Innovation Management, 3rd semester

3.2.1 Global Innovation Management – Industrial Application

Title: Innovation Pilots / Innovationspilot

Goal: Students who complete the module are expected to:

Knowledge

- Have gained knowledge and understanding of theoretical reflective work
- Have gained insight into intercultural communication and its implications.

Skills

- Be able to describe the problem solved and the criteria applied for its solution
- Be able to evaluate the concepts, theories and methodologies applied in the solution of the problem
- Be able to account for the choices made during the solution of the problem, and to substantiate that these are made on a high professional level
- Be able to assess the limitations of the concepts, theories and methodologies applied in the solution of the problem.

Competences

- Be able to analyse and solve an actual problem of industrial relevance through application of systematic research and development processes, including advanced analytical, experimental, and/or numerical methods and models.

Organisation: The semester consists of an industrial internship in a relevant Danish company. The total work load of the semester must be equivalent to 30 ECTS. The project should be finalised with a project report or in the form of a scientific paper.

Teaching Method: The student is included in the company's daily work. Concurrent to the work in the company, the student makes a report which is evaluated after ending the internship;

Form of examination: Oral examination based on a written report (for further information, please see the programme's study guide).

Evaluation criteria: As stated in the Joint programme regulations.

3.2.2 Operations Development and Strategy (5 ECTS)

Title: Operations Development and Strategy /Global produktionsudvikling og -strategi

Goal: Upon completion of the module, the student can:

Knowledge

- Understand configuration and design of operations systems in the manufacturing and service environments and demonstrate an in-depth knowledge of related theories and practices
- Describe and explain operations system performance objectives (cost, quality, flexibility, speed and dependability) and their change over time.
- Account for various perspectives on performance of operations systems (including focus, trade-off and synergies perspectives)
- Describe and explain structural and infrastructural decisions of operations systems design, including process technology, technology development and transformative effects of technology on operations systems
- Understand and demonstrate the importance of alignment between performance objectives and operations systems design through operations strategy matrix tool

Skills

- Use and evaluate appropriate methodologies and approaches to operations system conception, design, implementation and operation (CDIO)
- Analyze and evaluate different choices for strategic design of global operations systems and operations development strategies
- Initiate operations systems improvement and re-organizations processes and their implementation in the context of contemporary global operations

Competencies

- Diagnose problems in operations systems designs both in the manufacturing and service environments
- Conceive and design operations systems and their continuous development
- Take responsibility for the implementation and control of operations systems development

Teaching method: see chapter 3 **Form of examination:** Oral/written examination (for further information, please see the programme's study guide).

Evaluation criteria: Are stated in the Joint programme regulations.

3.3 Global Innovation Management, 4th semester

3.3.1 Master's Thesis (30 ECTS)

Title: Master's Thesis / Kandidatspeciale

Prerequisites: Successful conclusion of the first three semesters of the MSc in Global Innovation Management.

Goal: Students who complete the module are expected to:

Knowledge

- Have attained thorough understanding of the specialisation's subject areas.

Skills

- Be able to apply scientific methodology to solving a wide variety of problems within the field of specialisation
- Be able to perform scientific work in relevant topics of the field of the specialisation
- Be able to apply a wide range of engineering methods in research and development projects in the field of specialisation
- Be able to participate in or lead projects within the fields of the specialisation.

Competences

- Be able to work independently with a project on a specific problem within their field of interest on the highest possible level within their specialisation
- Be able to take part in both discipline-specific and interdisciplinary cooperation.

Teaching Method: Project work **Form of examination:** Oral examination with participation of an external examiner appointed by the Danish Ministry.

Evaluation criteria: As stated in the Joint programme regulations.

Chapter 4: Entry into Force, Interim Provisions and Revision

The curriculum is approved by the Dean of the Faculties of Engineering, Science and Medicine and enters into force as of September 2016 for 1st and 3rd semester.

Chapter 5: Other Provisions

5.1 Rules concerning Written Work, including the Master's Thesis

In the assessment of all written work, regardless of the language in which it is written, weight is also put on the student's spelling and formulation ability, in addition to the academic content. Orthographic and grammatical correctness as well as stylistic proficiency are considered basis for the evaluation of language performance. Language performance must always be included as an independent dimension of the total evaluation. However, no examination may be assessed as 'Pass' on the basis of language performance alone; similarly, an examination cannot normally be assessed as 'Fail' on the basis of poor language performance alone.

The Board of Studies can grant exemption from this in special cases (e.g., dyslexia or a native language other than Danish).

The Master's Thesis must include an English summary.¹ The summary must be at least one page and maximum two pages. The summary is included in the evaluation of the project as a whole.

5.2 Rules for Examinations

The rules for examinations are stated in the Examination Policies and Procedures published by the Faculties of Engineering, Science and Medicine on their website.

5.3 Exemption

Due to the collaborate nature of this curriculum, exemptions are made from the normal rule for external/internal exams, and graded versus passed/non-passed exams.

In exceptional circumstances, the Board of Studies study can grant exemption from those parts of the curriculum that are not stipulated by law or ministerial order. Exemption regarding an examination applies to the immediate examination.

Credit transfer at this programme is not possible.

5.4 Additional Information

The current version of the curriculum is published on the Board of Studies' website, including more detailed information about the programme and exams.

Completion of the Master Programme

The Master's programme must be completed no later than four years after it was begun.

Rules and Requirements concerning the Reading of Texts in Foreign Languages and a Statement of the Foreign Language Knowledge this Assumes

It is assumed that the student is able to read academic texts in modern English and use reference works, etc..

¹ Or another foreign language (upon approval from the Board of Studies).



Curriculum for the Master Programme in Global Innovation Management

Aalborg University
September 2016

Godkendt d. 8/3 16

 Eskild Holm Nielsen
dekan

