AALBORG UNIVERSITET

MASTER OF SCIENCE (MSC) IN TECHNOLOGY (OPERATIONS AND INNOVATION MANAGEMENT)

MASTER OF SCIENCE (MSC) IN TECHNOLOGY
COPENHAGEN

Link to this studyline

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§ 1: PREFACE

Pursuant to Act 261 of March 18, 2015 on Universities (the University Act) with subsequent changes, the following curriculum is established. The programme also follows the Joint Programme Regulations and the Examination Policies and Procedures for The Faculty of Engineering and Science, The Faculty of Medicine and The Technical Faculty of IT and Design.

§ 2: BASIS IN MINISTERIAL ORDERS

The Master's programme is organised in accordance with the Ministry of Higher Education and Science's Order no. 1061 of June 30, 2016 on Bachelor's and Master's Programmes at Universities (the Ministerial Order of the Study Programmes) and Ministerial Order no. 1062 of June 30, 2016 on University Examinations (the Examination Order). Further reference is made to Ministerial Order no. 258 of March 18, 2015 (the Admission Order) and Ministerial Order no. 114 of February 3, 2015 (the Grading Scale Order) with subsequent changes.

§ 3: CAMPUS

The programme is offered in Copenhagen.

§ 4: FACULTY AFFILIATION

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

§ 5: STUDY BOARD AFFILIATION

The Master's programme falls under the Study Board of Production.

§ 6: AFFILIATION TO CORPS OF EXTERNAL EXAMINERS

The Master's programme is associated with the external examiners corps on Nationwide engineering examiners/Machine.

§ 7: ADMISSION REQUIREMENTS

Applicants with a legal right of admission (retskrav):

- None

Applicants without legal right of admission:

- Bachelor of Science in Global Business Engineering – AAU

- Bachelor of Science in Business Administration – CBS

- Bachelor of Engineering in Chemistry and Business Economy – DTU

- Bachelor of Engineering in Manufacturing and Management – DTU

- Bachelor of Engineering in Process and Innovation – DTU

- Bachelor of Engineering in IT – AU

- Bachelor of Engineering in Interaction Design – SDU

- Bachelor of Engineering in Global Management and Manufacturing – SDU

- Bachelor of Engineering in Business Development Engineer – AU

- Bachelor of Science in Product Development and innovation – SDU

- Bachelor of Science in Innovation and Business – SDU

- Bachelor of Science in Product Development and Innovation – SDU

- Bachelor of Science in Global Business Informatics – ITU

- Bachelor of Science in Design and Innovation - DTU

Mathematics C or documentation of equivalent qualifications is required.

§ 8: THE PROGRAMME TITLE IN DANISH AND ENGLISH

The Master's programme entitles the graduate to the designation: Cand.tech. i værdikæder og innovationsledelse. The English designation is: Master of Science (MSc) in Technology (Operations and Innovation Management).

§ 9: PROGRAMME SPECIFICATIONS IN ECTS CREDITS

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

§ 10: RULES CONCERNING CREDIT TRANSFER (MERIT), INCLUDING THE POSSIBILITY FOR CHOICE OF MODULES THAT ARE PART OF ANOTHER PROGRAMME AT A UNIVERSITY IN DENMARK OR ABROAD

The Study Board can approve that passed programme elements from other educational programmes at the same level replaces programme elements within this programme (credit transfer).

Furthermore, the Study Board can, upon application, approve that parts of this programme is completed at another university or a further education institution in Denmark or abroad (pre-approval of credit transfer).

The Study Board's decisions regarding credit transfer are based on an academic assessment.

§ 11: EXEMPTIONS

The Study Board's possibilities to grant exemption, including exemption to further examination attempts and special examination conditions, are stated in the Examination Policies and Procedures published at this website: https://www.studieservice.aau.dk/regler-vejledninger

§ 12: RULES FOR EXAMINATIONS

The rules for examinations are stated in the Examination Policies and Procedures published at this website: https://www.studieservice.aau.dk/regler-vejledninger

§ 13: RULES CONCERNING WRITTEN WORK, INCLUDING THE MASTER'S THESIS

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

The Study Board 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. If the project is written in English, the summary can be in Danish. The summary is included in the evaluation of the project as a whole.

§ 14: REQUIREMENTS REGARDING THE READING OF TEXTS IN A FOREIGN LANGUAGE

It is assumed that the student can read academic texts in his or her native language as well as in English and use reference works etc. in other European languages.

§ 15: COMPETENCE PROFILE ON THE DIPLOMA

The following competence profile will appear on the diploma:

A Candidatus graduate has the following competency profile:

A Candidatus graduate has competencies that have been acquired via a course of study that has taken place in a research environment.

A Candidatus graduate is qualified for employment on the labour market based on his or her academic discipline as well as for further research (PhD programmes). A Candidatus graduate has, compared to a Bachelor, developed his or her academic knowledge and independence so as to be able to apply scientific theory and method on an independent basis within both an academic and a professional context.

§ 16: COMPETENCE PROFILE OF THE PROGRAMME

<u>The graduate of the Master's programme:</u>

Knowledge

- Has knowledge in the following subject areas that, in selected areas, is based on the highest international research in a subject area:
    - º Global technology and engineering management.
    - º Operations management in global value chains.
    - º Conceiving, designing, implementing and improving value chains in an organization or a network of organisations.
    - º Innovation and change management.
    - º Methods and concepts for analysing and researching global value chains.
    - º Key management systems in the global organization or network of organisations.
    - º Sustainable aspects within value chains.
- Can understand, apply and, on a scientific basis, reflect over the subject area's knowledge and identify scientific problems.
- Has knowledge about how to integrate technological considerations and issues into the design and implementation of global business systems and value chains.

Skills

- Excels in analysing complex engineering oriented business problems and designing new integrative solutions using scientific methods, tools and general skills related to employment within global operations and innovation management.
- Can evaluate the 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.
- Can apply theories, methods and concepts in different empirical settings.

- Can combine technological insights with market and value chain considerations in the design and improvement of innovative value chains.

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.

- Will become a leader of managing technological change and innovation in a global value chain context.

- Can give emphasis to the creative deployment and importance of technologies in the creation of global value chains.

§ 17: STRUCTURE AND CONTENTS OF THE PROGRAMME

The study programme in Operations and Innovation Management with a focus on Global Management is intended to prepare students for the management of technological and value chain changes in a global business context; the programme's main focal point are conception, design, implementation, and improvement of value chains in an organization or network of organisations.

The aim of the programme is to provide the students with a research based foundation for conceiving, designing, implementing and improving value chains within an organization or a network of organizations. The students should be equipped to manage these processes and should be able to
deal with the challenges emerging in connection herewith drawing upon theoretical frameworks for managing technology, innovations, operations, outsourcing/offshoring and processes in connection with global value chains. This will enable

students to manage advanced technological, organizational and processual development, improvement and implementation within global value chains.

The programme aims at providing the students with an in-depth professional knowledge and highlevel practical skills within the area of value chain conception, design, implementation, improvement. To obtain these goals, the Master of Science and Technology programme is organised into
modules and laid out as a problem-based, project-organised course of study. Each semester has an overall theme which serves a focal point in both modules and the project work.

The programme is structured in modules and organised as a problem-based study. A module is a programme element or a group of programme elements aiming to give students a set of professional skills within a fixed time frame specified in ECTS credits, and concluding with one or more
examinations within specific exam periods that are defined in the curriculum.

The programme is based on a combination of academic, problem-oriented and interdisciplinary approaches and organised based on the following work and evaluation methods that combine skills and reflection:

- Lectures

- Classroom instruction

- Project work

- Workshops

- Exercises (individually and in groups)

- Teacher feedback

- Reflection

- Portfolio work

§ 18: OVERVIEW OF THE PROGRAMME

All modules are assessed through individual grading according to the 7-point scale. All modules are assessed by external examination (external grading) or internal examination (internal grading or by assessment by the supervisor only).

Offered as:						
Module name	Course type	ECTS	Applied grading scale	Evaluation method	Assessment method	Language
1 SEMESTER Configuration, Design and Implementation of Manufacturing or Service Value Chains						
Configuration, Design and Implementation of Manufacturing or Service Value Chains (M-OIM-K1-N1)	Project	15	7-point grading scale	External examination	Oral exam based on a project	English
Research Methods and Analysis (M-OIM-K1-N2)	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
Operations Management and Productivity Improvement (M-OIM-K1-N3)	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
Outsourcing and Procurement (M-OIM-K1-N4)	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
2 SEMESTER Innovation and Implementation within Value Chains						
Innovation and Implementation within Value Chains (M-OIM-K2-N1)	Project	15	7-point grading scale	Internal examination	Oral exam based on a project	English

Innovation, Technology and Change (M-OIM-K2-N2)	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
Developing Integrated Solutions (M-OIM-K2-N3)	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
Elective courses Elective courses	Course	5				
3 SEMESTER Operations and Innovation Management - Elective track A						
Operations and Innovations Management (M-OIM-K3-N1)	Project	30	7-point grading scale	Internal examination	Oral exam based on a project	English
3 SEMESTER Operations and Innovation Management - Elective track B						
Academic Internship (M-OIM-K3-N2)	Project	30	7-point grading scale	Internal examination	Oral exam based on a project	English
3-4 SEMESTER Operations and Innovation Management						
Long Master's Thesis (M-OIM-K3-N3)	Project	60	7-point grading scale	External examination	Master's thesis/final project	English
4 SEMESTER Operations and Innovation Management						
Master's Thesis (M-OIM-K4-N1)	Project	30	7-point grading scale	External examination	Master's thesis/final project	English

§ 19: 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.

All students who have not participated in Aalborg University's PBL introductory course during their Bachelor's degree must attend the introductory course "Problem-based Learning and Project Management". The introductory course must be approved before the student can participate in the project exam.

§ 20: COMMENCEMENT AND TRANSITIONAL RULES

The curriculum is approved by the dean and enters into force as of September 2018.

Students who wish to complete their studies under the previous curriculum from 2017 must conclude their education by the summer examination period 2019 at the latest, since examinations under the previous curriculum are not offered after this time.

§ 21: AMENDMENTS TO THE CURRICULUM AND REGULATIONS

Minor editorial changes have been made in connection with digitisation of the study curriculum.

April 8, 2019: Starting from September 2018 Mathematics C or documentation of equivalent qualifications is required.