AALBORG UNIVERSITET

CURRICULUM FOR THE MASTER'S PROGRAMME (CAND.POLYT.) IN INDUSTRIAL DESIGN, 2020

MASTER OF SCIENCE (MSC) IN ENGINEERING
AALBORG

Link to this studyline

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Curriculum for the Master’s Programme in Industrial Design Cand.Polyt, 2015 v. 2

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§ 1: PREFACE

Pursuant to consolidation Act 778 of August 7, 2019 on Universities (the University Act), the following is established. The programme also follows the Joint Programme Regulations and the Examination Policies and Procedures for Aalborg University.

§ 2: BASIS IN MINISTERIAL ORDERS

The Master's programme is organised in accordance with the Ministry of Higher Education and Science's Order no. 20 of January 9, 2020 on Bachelor's and Master's Programmes at Universities (the Ministerial Order of the Study Programmes) and Ministerial Order no. 22 of January 9, 2020 on University Examinations (the Examination Order). Further reference is made to Ministerial Order no. 153 of February 26, 2020 (the Admission Order) and Ministerial Order no. 114 of February 3, 2015 (the Grading Scale Order).

§ 3: CAMPUS

The programme is offered in Aalborg.

§ 4: FACULTY AFFILIATION

The Master's programme falls under The Technical Faculty of IT and Design, Aalborg University.

§ 5: STUDY BOARD AFFILIATION

The Master's programme falls under Study Board of Architecture and Design

§ 6: AFFILIATION TO CORPS OF EXTERNAL EXAMINERS

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

§ 7: ADMISSION REQUIREMENTS

Applicants with a legal right of admission (retskrav):

- Bachelor of Science (BSc) in Engineering (Architecture and Design with specialisation in Industrial Design), Aalborg University

Applicants without legal right of admission:

- Bachelor of Science (BSc) in Design and Innovation, DTU
- Bachelor of Engineering (B Eng) in Integrated Design, SDU

All applicants without a legal right must prove that their English language qualifications is equivalent to level B (Danish level) in English

§ 8: THE PROGRAMME TITLE IN DANISH AND ENGLISH

The Master's programme entitles the graduate to the Danish designation Civilingeniør, cand.polyt. i industrielt design. The English designation is: Master of Science (MSc) in Engineering (Industrial Design).

§ 9: PROGRAMME SPECIFICATIONS IN ECTS CREDITS

The Master's programme is a to-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 and use reference works, etc., in English.

§ 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

The graduate of the Master's programme

Knowledge

- Must have a broad knowledge of theories, methods and practices associated with the professions of engineering and design combined with a knowledge of methods and practices associated with the professionalisms of design engineering
- Must have advanced knowledge of analytical approaches to technical and societal aspects 'of the profession
- Must have a broad knowledge of both analogue and digital tools for the development and representation of design processes, proposal and research
- Must have extensive knowledge of the methods and theories of design engineering
- Must be able to account for research and practice based knowledge about the field of industrial design in an integrated engineering perspective and is able to reflect and communicate this

- Must be able to understand and explain systematic and scientific rigor, as applied in engineering sciences and be able to apply these in reasoning and methodological reflection in and on the process of development
- Must be able to explain, analyse, apply and reflect on a creative combinations of methods, technologies and approaches from various engineering fields in order to create new solutions
- Must have a broad cross disciplinary insight in Industrial design engineering design processes and business processes and how to manage these

Skills

- Must be able to demonstrate the ability to make advanced integrated design* proposals
- Must be able to practically apply theories, methods and tools within industrial design and to apply skills associated with employment within the fields of design engineering on a scientific basis
- Must be able to assess theoretical and practical problems and to select and motivate relevant solutions in design and engineering on the basis of scientific methods
- Must be able to communicate disciplinary problems and solutions to both peers and non-specialists as well as to collaborators and users, and to analyse and understand the connections between design, environment and society as a whole
- Must excel in organizing the design process, from the strategic scope to construction and product maturation, adjusting the approach to the demands of the situation
- Must excel in revealing and integrating explicit or tacit user needs and synthesize these needs and market opportunities into innovative integrated solutions**, in non-standard situations with complex and ill-defined problems
- Must be able to design by integrating a desired expression and experience through form and function into technical sound products, constructions and solutions, with due consideration to state of the art technology, manufacturing abilities, costs and configuration of supply chain
- Must be able to apply scientific methods and techniques in the development of products*** and in doing research that may contribute to research projects and to thedevelopment of new knowledge and new business opportunities
- Must demonstrate high skills in communicating complex problems and solutions to both peers and non-specialists

** Integrated Design: The process is fundamentally a technical and scientific product development process, in which analysis and synthesis of social and human science aspects in relation to needs, sales and use of products and solutions are systematically and methodically integrated through external validation and abductive reasoning, capable of handling wicked problems and open-ended processes..*

*** Solution: Refer to a broader proposal encompassing business modelling, strategies, network organisation and possible service elements*

**** Products: Broader interpretation of a product and may include immateriel components*

Competencies

- Must be able to handle and manage complex and development-oriented situations in relation to both study and work
- Must be able with a professional approach independently and with demonstrable overview to participate in professional and interdisciplinary cooperation in the field of design engineering
- Must be able to identify own learning needs and structure own learning in various learning environments with a view to solving new types of problems
- Must be able to independently and professionally manage and facilitate a design process that integrates engineering disciplines in order to design innovative solutions that include both technical rigor and design features
- Must be able to recognize the relevant disciplines and aspects like functionality, technology, aesthetics, use, market and marketing, manufacturing, logistics, consumer, business and sustainability and is able to integrate and synthesise these aspects in the design and development of products
- Must be able to review and assess integrated solutions while taking into account both engineering, design and business perspectives

§ 17: STRUCTURE AND CONTENTS OF THE PROGRAMME

The programme is structured in modules and organized as a problem-based study. A module is a program element or a group of programme elements, which aims 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. Examinations are defined in the curriculum. The programme is based on a combination of academic, problem-oriented and interdisciplinary approaches and organized 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

If the student wants to study abroad, the Study Board recommends this in the third semester. The student must apply for a preapproval of credit transfer by the Study Board of Architecture and Design.

§ 18: OVERVIEW OF THE PROGRAMME

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

Offered as: 1-professional						
Module name	Course type	ECTS	Applied grading scale	Evaluation method	Assessment method	Language
1 SEMESTER						
Advanced Integrated Design I: Pre-phase (AODIM1K201)	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
Production and Economy (AODIM1K202)	Course	5	Passed/Not Passed	Internal examination	Written or oral exam	English
Business Driven Innovation by Design (AODIM1P203)	Project	20	7-point grading scale	Internal examination	Oral exam based on a project	English
2 SEMESTER						
Advanced Integrated Design II: Business Development (AODIM2K201)	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
Technology & Form (AODIM2K202)	Course	5	Passed/Not Passed	Internal examination	Written or oral exam	English
Technology Innovation Driven by Design (AODIM2P203)	Project	20	7-point grading scale	External examination	Oral exam based on a project	English
3 SEMESTER Version A						
Project-Oriented Study in an External Organisation (AODIM3P201)	Project	30	7-point grading scale	Internal examination	Oral exam based on a project	English
3 SEMESTER Version B						
Start-Up and Execution of Design (AODIM3P202)	Project	30	7-point grading scale	Internal examination	Oral exam based on a project	English
4 SEMESTER						

Master's Thesis (AODIM4P201)	Project	30	7-point grading scale	External examination	Master's thesis/final project	English

§ 19: ADDITIONAL INFORMATION

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. For further information, please see www.create.aau.dk/education/.

§ 20: COMMENCEMENT AND TRANSITIONAL RULES

The curriculum is approved by the dean and enters into force as of 01.09.2020

The Study Board does not offer teaching after the previous curriculum from 2015v2 after the summer examination 2021.

The Study Board will offer examinations after the previous curriculum, if there are students who have used examination attempts in a module without passing. The number of examination attempts follows the rules in the Examination Order.

§ 21: AMENDMENTS TO THE CURRICULUM AND REGULATIONS