AALBORG UNIVERSITET

CURRICULUM FOR THE MASTER'S PROGRAMME IN SUSTAINABLE DESIGN, 2019

MASTER OF SCIENCE (MSC) IN ENGINEERING
COPENHAGEN

Link to this studyline

Link(s) to other versions of the same line:

Curriculum for the Master's Programme in Sustainable Design, 2020, Copenhagen
Curriculum for the Master's Programme in Engineering (Sustainable Design), 2022, Copenhagen
Curriculum for the Master's Programme in Sustainable Design - 2017 - Copenhagen

TABLE OF CONTENTS

§ 1: PREFACE

Pursuant to consolidation Act 172 of February 27, 2018 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.

§ 2: BASIS IN MINISTERIAL ORDERS

The Master's programme is organised in accordance with the Ministry of Higher Education and Science's Order no. 1328 of November 15, 2016 on Bachelor's and Master's Programmes at Universities (the Ministerial Order of the Study Programmes) with subsequent changes and Ministerial Order no. 1062 of June 30, 2016 on University Examinations (the Examination Order) with subsequent changes. Further reference is made to Ministerial Order no. 106 of February 12, 2018 (the Admission Order) and Ministerial Order no. 114 of February 3, 2015 (the Grading Scale Order).

§ 3: CAMPUS

The programme is offered in Copenhagen.

§ 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 Techno-Anthropology and Sustainable 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 in Sustainable Design (AAU)

Applicants without legal right of admission:

- Design and Innovation (DTU)
- Integrated Design (SDU)
- Architecture and Design, specialisation in Industrial Design (AAU)

§ 8: THE PROGRAMME TITLE IN DANISH AND ENGLISH

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

§ 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

The graduate of the Master's programme will aquire the following competencies:

Knowledge

- Has knowledge, which in chosen areas, is based on the highest international level of research, within the following areas:
  - Sustainable design
  - Innovation and organizational change processes
  - Staging participatory design
  - Entrepreneurship and market creation
  - Can understand and critically respond to these knowledge fields and their methodologies, as well as identify scientific problem areas within and across them

Skills

- Master engineering and science related methods, methods from innovation studies and methods from network-based analysis of organizations, institutional and interest related context and can with these analyze sustainable technological innovation
- Can critically consider above-mentioned theories and methods, develop new models for sustainable technological innovation and in collaboration with networks of different actors transform these into strategic plans of action
- Can discuss and communicate professional and scientific issues regarding sustainable innovation with technical experts, decision-makers, senior executives, government officers, NGO’s and various users

Competencies

- Can manage work- and development situations that are complex, unpredictable and require new solutions
- Can independently initiate and complete professional and cross-disciplinary collaboration and take a professional responsibility within design- and transition processes
- Can independently take responsibility for own professional and cross-disciplinary development within the scientific fields of design, technology and sustainability

§ 17: STRUCTURE AND CONTENTS OF THE PROGRAMME

The programme is structured in modules and organised as a problem-based study. A module is a program element or a group of program 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.

Teaching methods and exams

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
- instructions
- project work
- work in laboratories and workshops
- experimentations
- workshops
- exercises (individually and in groups)
- teacher feedback
- reflections
- portfolio work
- external activities
- case work
- peer assessment
- study groups

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).

Curriculum content

The Master’s program is an engineering education with special emphasis on design and development and innovation of sustainable solutions. The program includes interdisciplinary components to satisfy the need for combining methods from social science and technology studies with technical subjects and design practices.

The education will provide the student with the ability to understand, stage and carry out innovative processes leading to design and the implementation of sustainable products, services and socio-material system solutions through involving relevant actors.

The programs' focus on sustainability is reflecting the challenges that development, production, consumption and dismantling of technologies poses for resource utilization and climate. It builds on the broad notion of sustainability that includes the environment, the social and the economy. The realization of these societal goals implies a focus on sustainable transitions in a design perspective as the core to the program's activities.

§ 18: OVERVIEW OF THE PROGRAMME

The tabel below shows all project and course modules on the master program, the amount of ECTS's and the assessment for each.

Offered as: 1-professional						
Module name	Course type	ECTS	Applied grading scale	Evaluation method	Assessment method	Language
1 SEMESTER						
Conceptualisation of Sustainable Value Chains (TBISDK17101)	Project	15	7-point grading scale	Internal examination	Written and oral exam	English
Design in Organisations (TBISDK17102)	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
Market Creation (TBISDK17103)	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
Electives 1. sem. Choose 1 course	Course	5				
2 SEMESTER						
Design Strategies as Responses to Wicked Problems (TBISDK17201)	Project	20	7-point grading scale	External examination	Written and oral exam	English
Sustainable Transition (TBISDK17202)	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
Staging Participatory Design (TBISDK17203)	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
3 SEMESTER Version A						
Design Research Project (TBISDK17301)	Project	30	7-point grading scale	Internal examination	Oral exam based on a project	English
3 SEMESTER Version B						
Project Oriented Study in an External Organisation (TBISDK17305)	Project	30	7-point grading scale	Internal examination	Oral exam based on a project	English
3 SEMESTER Version C						
International Design Project (TBISDK17303)	Project	30	7-point grading scale	Internal examination	Oral exam based on a project	English
4 SEMESTER						
Master's Thesis (TBISDK17401)	Project	30	7-point grading scale	External examination	Oral exam based on a project	English

Electives 1. sem. Choose 1 course						
Module name	Course type	ECTS	Applied grading scale	Evaluation Method	Assessment method	Language
Distributed Technological Design (TBISDK17105)	Course	5	Passed/Not Passed	Internal examination	Written or oral exam	English
Design for Sustainability (TBISDK17104)	Course	5	7-point grading scale	Internal examination	Written or oral exam	English

The master program is based on a progression in which the complexity of the themes is progressively increasing:

1st semester: Conceptualisation of Sustainable Value Chains

On this semester the focus is on conceptualising sustainable value chains related to organisation, economics and market. The organisational context that design and innovation processes are happening in is introduced through the course module *Design in organisations* and the economic dimension of design is introduced through the course module *Market creation*. The students are to choose between two elective modules: *Distributed technological design* and *Design for sustainability*. In the project module *Conceptualisation of sustainable value chains,* the students use knowledge gained from the two course modules and the selected elective module and explore how sustainable value chains can be realised in organisations and on the market, with point of departure in a realistic problem definition.

2nd semester: Design Strategies as Responses to Wicked Problems

On this semester the focus is on design strategies as responses to wicked problems and how it is possible to tackle these wicked problems through a design approach. In the course module *Staging participatory design*, the students will learn strategies for how to stage design processes, and the course module *Sustainable transition focuses on how to stage larger transition processes.*

3rd semester: Holistic Design

On this semester the students are given the opportunity to take a semester at another university, carry out a design project in an international context, carry out a design research project or do a Project-oriented study in an external organisation.

4th semester: Master Thesis

At the last semester the students are to carry out their master thesis. It is free for the students to choose topic and collaboration partner themselves, as long as it is related to sustainable design challenges.

§ 19: ADDITIONAL INFORMATION

PBL introductory course

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 the Department of Planning's website.

§ 20: COMMENCEMENT AND TRANSITIONAL RULES

The curriculum is approved by the dean and enters into force as of September 1, 2019.

The Study Board does not offer teaching after the previous curriculum from 2017 after the summer examination period 2020.

§ 21: AMENDMENTS TO THE CURRICULUM AND REGULATIONS