



AALBORG UNIVERSITET

# **CURRICULUM FOR THE MASTER'S PROGRAMME IN SUSTAINABLE CITIES - 2017 - COPENHAGEN**

MASTER OF SCIENCE (MSC) IN ENGINEERING  
COPENHAGEN

[Link to this studyline](#)

## TABLE OF CONTENTS

§ 1: Preface .....	3
§ 2: Basis in Ministerial Orders .....	3
§ 3: Campus .....	3
§ 4: Faculty affiliation .....	3
§ 5: Study board affiliation .....	3
§ 6: Affiliation to corps of external examiners .....	3
§ 7: Admission requirements .....	3
§ 8: The programme title in Danish and English .....	3
§ 9: Programme specifications in ECTS credits .....	3
§ 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 .....	4
§ 11: Exemptions .....	4
§ 12: Rules for examinations .....	4
§ 13: Rules concerning written work, including the Master's Thesis .....	4
§ 14: Requirements regarding the reading of texts in a foreign language .....	4
§ 15: Competence profile on the diploma .....	4
§ 16: Competence profile of the programme .....	4
§ 17: Structure and Contents of the programme .....	6
§ 18: Overview of the programme .....	6
§ 19: Additional information .....	7
§ 20: Commencement and transitional rules .....	7
§ 21: Amendments to the curriculum and regulations .....	7

## **§ 1: PREFACE**

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

The Master's Programme in Sustainable Cities is a 2-year programme (1<sup>st</sup>-4<sup>th</sup> Semester) which builds on a relevant bachelor's programme of 3 years. The programme is performed with a special view to the theoretical and methodical handling of complex and new engineering problems. In the last Semester of the programme, a master's thesis is prepared.

This curriculum takes effect as of September 1, 2017.

## **§ 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 Technical Faculty of IT and Design, Aalborg University.

## **§ 5: STUDY BOARD AFFILIATION**

The Master's programme falls under Study Board of Planning and Surveying

## **§ 6: AFFILIATION TO CORPS OF EXTERNAL EXAMINERS**

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

## **§ 7: ADMISSION REQUIREMENTS**

### **Applicants with a legal right of admission (retskrav)**

- Bachelor of Science in Urban, Energy and Environmental Planning, AAU

### **Applicants without legal right of admission**

- Students with another Bachelor's degree may, upon application to the Board of Studies, be admitted after a specific academic assessment if the applicant is deemed to have comparable educational prerequisites. The University can stipulate requirements concerning conducting additional exams prior to the start of study.

## **§ 8: THE PROGRAMME TITLE IN DANISH AND ENGLISH**

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

## **§ 9: PROGRAMME SPECIFICATIONS IN ECTS CREDITS**

The Master's program is a 2-year, research-based, full-time study program. The program 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 successfully completed (passed) programme elements from other Master's programmes in lieu of programme elements in this programme (credit transfer). The Study Board can also approve successfully completed (passed) programme elements from another Danish programme or a programme outside of Denmark at the same level in lieu of programme elements within this curriculum. Decisions on credit transfer are made by the Study Board based on an academic assessment. See the Joint Programme Regulations for the rules on credit transfer.

## **§ 11: EXEMPTIONS**

In exceptional circumstances, the Study Board 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.

## **§ 12: RULES FOR EXAMINATIONS**

The rules for examinations are stated in the Examination Policies and Procedures published by the faculty on their website.

## **§ 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 (or another foreign language: French, Spanish or German upon approval by the Study Board). If the project is written in English, the summary must be in Danish (The Study Board can grant exemption from this). The summary must be at least 1 page and not more than 2 pages (this is not included in any fixed minimum and maximum number of pages per student). The summary is included in the evaluation of the project as a whole.

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

At programmes taught in Danish, it is assumed that the student can read academic texts in modern Danish, Norwegian, Swedish and English and use reference works, etc., in other European languages. At programmes taught in English, it is assumed that the student can read academic text 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**

- Has knowledge within one or more fields of sustainable urban development, which in selected areas, is based on the highest national and international research in this field

- Has basic knowledge of the implications of research ethics
- Has thorough knowledge of relevant national and international research work
- Has thorough knowledge of theories and methods in planning, administration and/or management within the public and private sectors
- Possesses specialist understanding in continuation of the previous degree/or a broad perspective within the field of the previous degree/or a new professional competence in addition to the previous degree
- Possesses insight into and understanding of the national and international social conditions and challenges under which strategies, plans and projects within sustainable urban development are implemented.

### Skills

- Can handle the methods and tools of sustainable urban development as well as general skills connected with occupation within the field
- Can assess and choose among the theories, methods, tools and general skills in sustainable urban development and, on a scientific basis, draw up new models of analysis and solution
- Can analyse the complex technical, environmental, social and economic contexts of which the strategies and plans for a sustainable urban development form part
- Can analyse and prepare strategies, plans and projects at different levels
- Can assess the impacts of strategies, plans and projects and estimate if these are expedient and feasible in technical, economic, environmental, business and social respects
- Can involve the public and relevant actors at all levels
- Can reflect on ethical matters in connection with professional practice
- Can independently make and substantiate professionally related decisions and, when necessary, carry out investigations procuring a sufficient basis of decision
- Can perform development work on a scientific basis
- Can communicate research-based knowledge within the field of sustainable cities and discuss professional and scientific problems with both peers and non-specialists.

### Competencies

- Can be part of public organisations as well as private firms or NGOs
- Can understand and on a scientific basis reflect on the knowledge and problems of the field of sustainable cities and, in this relation, identify important social problems
- Can independently assess the expediency of different theories and methods of analysis and professional problem solution
- Can formulate and analyse essential problems independently, systematically and critically by using relevant scientific methods
- Can construct relevant, alternative solutions and make a selection from these
- Can initiate and form part of interdisciplinary teams within the field of sustainable cities, working with the lay-out and implementation of strategies, plans and projects in Danish or international contexts
- Has a basic understanding of the technical, environmental, social, and economic conditions connected with the development and design of cities
- Can independently prepare, structure and evaluate strategies, plans and projects
- Can develop proposals for instruments to secure the implementation of strategies, plans and projects
- Has insight into and understanding of planning and social theory as well as the structure and function of organisations and planning and management systems
- Can use the acquired knowledge to create and initiate open and democratic decision processes in planning through public participation in the development, design and implementation of strategies, plans and projects
- Can understand the complex processes taking place in connection with the design and implementation of strategies, plans and projects in which both public and private interests are in evidence
- Can participate in the research within the field of sustainable cities and thus contribute to the development of the field
- Can independently develop his/her competences and specialisation.

## § 17: STRUCTURE AND CONTENTS OF THE PROGRAMME

The programme is modular and organised as a problem-based study. A module is a discipline or a group of disciplines, which has the objective of giving the student a series of professional qualifications within a specified time frame, indicated in ECTS credits and completed with one or more examinations within certain examination periods. The examinations are described and delimited in the curriculum.

The programme builds on a combination of professional, problem-oriented and interdisciplinary approaches and is organised on the basis of the following work and evaluation forms combining skills and professional reflection:

- lectures
- class teaching
- project work
- workshops
- assignment work (individually and in groups)
- teacher feedback
- professional reflection
- portfolio work
- pin-up presentations, etc.

## § 18: OVERVIEW OF THE PROGRAMME

The table below presents an overview of project modules and course modules of the four Semesters of the Master's Programme. The Master's Programme includes teaching in theories of science and research methods corresponding to a 5 ECTS course module. This course is taught during the first Semester of the programme.

All modules are graded individually according to the 7-point grading scale or pass/fail (P/F). All modules are assessed through an external examination (external examiner) or an internal examination (second internal examiner or no second examiner).

Offered as:					
Study programme: Sustainable Cities					
Module name	Course type	ECTS	Applied grading scale	Evaluation method	Assessment method
<b>1 SEMESTER</b>					
<a href="#">The Role of Organisations and Business in Developing Sustainable Cities</a>	Project	15	7-point grading scale	Internal examination	Oral exam based on a project
<a href="#">Theories of Science and Research Designs</a>	Course	5	7-point grading scale	Internal examination	Written exam
<a href="#">Challenges and Planning for Sustainable Cities</a>	Course	5	Passed/Not Passed	Internal examination	Active participation/continuous evaluation
<a href="#">Tools and Approaches to Sustainable Development</a>	Course	5	Passed/Not Passed	Internal examination	Written or oral exam
<b>2 SEMESTER</b>					
<a href="#">Sustainable Cities from an Institutional and Societal Perspective</a>	Project	15	7-point grading scale	External examination	Oral exam based on a project
<a href="#">Policy, Planning and Governance</a>	Course	5	7-point grading scale	Internal examination	Written or oral exam

<a href="#">Systems and Structures of the City</a>	Course	5	7-point grading scale	Internal examination	Written or oral exam
<a href="#">Economic, Social and Environmental Impact Assessment</a>	Course	5	7-point grading scale	Internal examination	Written or oral exam
<b>3 SEMESTER</b>					
<a href="#">Professional Development</a>	Project	30	7-point grading scale	Internal examination	Oral exam based on a project
<b>4 SEMESTER</b>					
<a href="#">Master's Thesis</a>	Project	30	7-point grading scale	External examination	Oral exam based on a project

During the 1st and 2nd Semesters, the student is, by prior application, allowed to construct a course of study which meets the objectives of the given Semester. The project work may here be replaced by other study activities (cf. the Joint Programme Regulations).

During the 3rd Semester, the student can choose freely from the following types of Semesters: 1) Project Semester – with or without integrated, project-oriented internship, or 2) International or national courses rewarding credit, or 3) Extended final project (60 ECTS Master's thesis), (cf. the project module description of the 3rd Semester). In relation to option 1), the student who has completed the 1st and 2nd Semesters of Sustainable Cities may also choose to attend the 1st Semester of the Master's Programme of Urban, Energy and Environmental Planning or MSc in Geography, or other programmes, upon the specific assessment of the Study Board.

The programme is in 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, including 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. For further information, please see the School of Architecture, Design and Planning's website.

## § 20: COMMENCEMENT AND TRANSITIONAL RULES

This curriculum is approved by the Dean of the Technical Faculty of IT and Design and takes effect as of September 1, 2017.

Students who wish to complete their studies under the previous curriculum from 2012 must conclude their education by the summer examination period 2018 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 the digitalisation of the curriculum.