AALBORG UNIVERSITET

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

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 Cities, 2020, Copenhagen
Curriculum for the Master's Programme in Sustainable Cities, 2019, Copenhagen

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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 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 (1st-4th 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 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

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	Language
1 SEMESTER						
The Role of Organisations and Business in Developing Sustainable Cities	Project	15	7-point grading scale	Internal examination	Oral exam based on a project	English
Theories of Science and Research Designs	Course	5	7-point grading scale	Internal examination	Written exam	English
Challenges and Planning for Sustainable Cities	Course	5	Passed/Not Passed	Internal examination	Active participation/continuous evaluation	English
Tools and Approaches to Sustainable Development	Course	5	Passed/Not Passed	Internal examination	Written or oral exam	English
2 SEMESTER						
Sustainable Cities from an Institutional and Societal Perspective	Project	15	7-point grading scale	External examination	Oral exam based on a project	English
Policy, Planning and Governance	Course	5	7-point grading scale	Internal examination	Written or oral exam	English

Systems and Structures of the City	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
Economic, Social and Environmental Impact Assessment	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
3 SEMESTER Option 1						
Professional Development	Project	30	7-point grading scale	Internal examination	Oral exam based on a project	English
3 SEMESTER Option 2						
3rd semester - SEPM						
3 SEMESTER Option 3						
3rd semester - UPM						
3 SEMESTER Option 4						
3rd semester - EMSS						
3 SEMESTER Option 5						
3rd semester - CiSu						
3 SEMESTER Option 6						
3rd semester - GEO						
3-4 SEMESTER Option 7						
Extended Master's Thesis	Project	60	7-point grading scale	External examination	Master's thesis/final project	English
4 SEMESTER						
Master's Thesis	Project	30	7-point grading scale	External examination	Oral exam based on a project	English

3rd semester - SEPM

Module name	Course type	ECTS	Applied grading scale	Evaluation Method	Assessment method	Language
Sustainable Energy Planning in a Technical and Business Economic Perspective	Project	15	7-point grading scale	Internal examination	Oral exam based on a project	English
Theories of Science and Research Designs	Course	5	Passed/Not Passed	Internal examination	Written or oral exam	English
Energy Project Evaluation	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
Energy System Analysis 1	Course	5	Passed/Not Passed	Internal examination	Written or oral exam	English

3rd semester - UPM						
Module name	Course type	ECTS	Applied grading scale	Evaluation Method	Assessment method	Language
The Complex City	Project	15	7-point grading scale	Internal examination	Oral exam based on a project	English
Theories of Science and Research Designs	Course	5	Passed/Not Passed	Internal examination	Written or oral exam	English
Planning History and Urban Theory	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
Sustainable Urban Planning	Course	5	Passed/Not Passed	Internal examination	Written or oral exam	English

3rd semester - EMSS						
Module name	Course type	ECTS	Applied grading scale	Evaluation Method	Assessment method	Language
Corporate Sustainability Management	Project	15	7-point grading scale	Internal examination	Oral exam based on a project	English
Theories of Science and Research Designs	Course	5	Passed/Not Passed	Internal examination	Written or oral exam	English
Sustainable Consumption and Production	Course	5	Passed/Not Passed	Internal examination	Written or oral exam	English
Sustainable Products and Services	Course	5	7-point grading scale	Internal examination	Written or oral exam	English

3rd semester - CiSu						
Module name	Course type	ECTS	Applied grading scale	Evaluation Method	Assessment method	Language
Urban Transformations and Sustainable Engineering	Project	15	7-point grading scale	Internal examination	Oral exam based on a project	English
Theories of Science and Research Designs	Course	5	Passed/Not Passed	Internal examination	Written or oral exam	English
Sustainable Urban Planning	Course	5	Passed/Not Passed	Internal examination	Written or oral exam	English
Climate and Hydrology of the Dense City	Course	5	7-point grading scale	Internal examination	Written or oral exam	English

3rd semester - CiSu						
Module name	Course type	ECTS	Applied grading scale	Evaluation Method	Assessment method	Language
Urban Transformations and Sustainable Engineering	Project	15	7-point grading scale	Internal examination	Oral exam based on a project	English
Theories of Science and Research Designs	Course	5	Passed/Not Passed	Internal examination	Written or oral exam	English

Sustainable Urban Planning	Course	5	Passed/Not Passed	Internal examination	Written or oral exam	English
Climate and Hydrology of the Dense City	Course	5	7-point grading scale	Internal examination	Written or oral exam	English

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).

International or National Credit

By prior approval of the Study Board, the 3rd Semester may be transferred to another educational institution in Denmark or abroad. Prior approval (pre-credit) may be expected if the studies at another educational institution can give the student knowledge, skills and competences corresponding to the extent and knowledge, skills and competences that could otherwise be acquired by following the “Professional Development”-module.

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 Architecutre, 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.