



AALBORG UNIVERSITET

**CURRICULUM FOR THE MASTER'S  
PROGRAMME IN URBAN, ENERGY AND  
ENVIRONMENTAL PLANNING - 2017 -  
AALBORG**

MASTER OF SCIENCE (MSC) IN ENGINEERING  
AALBORG

Curriculum for the Master's Programme in Urban, Energy and Environmental Planning - 2017 -  
Aalborg

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[Curriculum for the Master's Programme in Urban, Energy and Environmental Planning, 2020](#)

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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 Technical Faculty of IT and Design, The Faculty of Engineering and Science, and The Faculty of Medicine.

## § 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) and Ministerial Order no. 1062 of June 30, 2016 on University Examinations (the Examination Order). Further reference is made to Ministerial Order no. 111 of January 30, 2017 (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 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 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):

Applicants with one of the following degrees are entitled to admission:

- Urban, Energy and Environmental Planning, AAU (campus Aalborg)

### 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 by-, energi- og miljøplanlægning med specialisering i:*

- Byplanlægning

- Miljøledelse og bæredygtighed

- Energiplanlægning, *eller*

- Byer og bæredygtighed

The English designation is: Master of Science (MSc) in Engineering (Urban, Energy and Environmental Planning) with specialisation in:

- Urban Planning and Management

- Sustainable Energy Planning and Management
- Environmental Management and Sustainability Science, *or*

- Cities and Sustainability

## **§ 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**

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

### Urban Planning and Management (UPM)

For the specialisation in Urban Planning and Management, the candidate acquires, in addition to the competence profile of the diploma, the following:

#### Knowledge

- Has basic knowledge of the implications of research ethics
- Has understanding of theories of science, research design and research methods relevant for conducting research within the field of planning
- Has thorough knowledge of theories and methods in planning, administration and/or management within the public and private sector
- Basic understanding of the technical, structural and social conditions connected with the development and infrastructures of towns and regions
- Understanding of the complex processes taking place in connection with the preparation and implementation of strategies and plans, where both public and private interests prevail
- Possesses insight into and understanding of the social-technical conditions under which strategies, plans and projects are implemented.
- Knowledge and understanding of the history of modern urban planning
- Knowledge and understanding of the complexities of planning for sustainable urban development
- Knowledge and understanding of the scientific value foundations of different urban planning theories
- Knowledge of planning processes and an understanding of their relation to politics and power in the field of urban planning
- Knowledge and understanding of the role of the planner in managing power relations

#### Skills

- Can identify relevant research problems within the field of planning
- Can design a research project and use relevant research methods in order to analyse a chosen problem
- Can analyse the technical and social context of strategies and plans
- Can analyse and prepare strategies, plans and projects at different levels
- Can assess if strategies, plans, projects or infrastructure systems are expedient and feasible in technical, economic, environmental, and social respects
- Can involve the public and relevant actors at all levels in planning processes
- Can reflect on ethical matters in connection with professional practice
- Can impart research-based knowledge within the field of planning and discuss professional and scientific problems with both colleagues and non-specialists.
- Can analyse and evaluate urban policies and plans in relation to their immediate as well as long-term contribution to sustainable urban development
- Can use urban theories to analyse historical and contemporary planning practices and identify contemporary and potential planning challenges
- Can prepare concepts, proposals and solutions to guide future urban planning objectives
- Can analyse and evaluate a planning process, and critically assess power dynamics in the practices of planning
- Can make use of relevant theories, concepts and methods to analyse the practice of planning and critically evaluate the need for the planner to intervene in different contexts

#### Competencies

- Can act as part of public organisations as well as private firms, including NGOs
- Can understand and on a scientific basis reflect on the knowledge and problems of the field of planning and in this relation identify important social problems
- Can assess the expediency of different theories and methods for independent analysis and professional problem solution
- Can formulate and analyse essential problems independently, systematically and critically by using relevant scientific methods
- Can act as part of interdisciplinary teams within the field of planning, working with the preparation and implementation of plans and strategies in Danish or international contexts
- Can develop proposals for management instruments to secure the implementation of strategies, plans and projects
- Can use the acquired knowledge to provide and initiate open and democratic planning processes
- Can participate in research within the field of planning and in this way contribute to the development of the profession
- Can independently develop own competencies and specialisation
- Can independently and critically manage work and development situations that are complex, unpredictable and require new solutions
- Can independently conduct research on the historical and contemporary development of cities and identify contemporary planning problems
- Can carry out focused, critical and well-informed research to support the planning for sustainable and liveable cities
- Can independently and critically manage planning processes that are influenced by power dynamics

### **Sustainable Energy Planning and Management (SEPM)**

For the specialisation in Sustainable Energy Planning and Management, the candidate acquires, in addition to the competence profile of the diploma, the following:

#### Knowledge

- Has understanding of theories of science, research design and research methods relevant for conducting research within the field of planning
- Basic understanding of the technical, structural and social conditions connected with the development and infrastructures of towns and regions
- Possesses insight into and understanding of the social-technical conditions under which strategies, plans and projects are implemented
- Knowledge and understanding of energy problems and energy planning at the level of companies and organisations, as well as on a societal level
- Knowledge and understanding of institutional and organisational conditions and public regulation related to energy planning in different national and cultural contexts
- Knowledge and understanding of theories, evaluation methods and tools in relation to the analysis of energy problems
- Knowledge and understanding of energy systems and energy plants, including technical and economic energy system analysis
- Knowledge and understanding of international energy policies, including their origin and historical context, their implementation effects and connection with decision processes

#### Skills

- Can identify relevant research problems within the field of planning
- Can design a research project and use relevant research methods in order to analyse a chosen problem
- Can analyse the technical and social context of strategies and plans
- Can analyse and prepare strategies, plans and projects at different levels
- Can assess if strategies, plans, projects or infrastructure systems are expedient and feasible in technical, economic, environmental, and social respects
- Can impart research-based knowledge within the field of planning and discuss professional and scientific problems with both colleagues and non-specialists
- Can critically analyse energy-related problems, and understand, use and analyse evaluation methods and tools for socio-economic impact analyses
- Can understand and reflect on connections between institutions, public regulation and organisations, their dynamics as well as their interaction with the surrounding society

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- Can simulate the operation of energy systems with multiple dependent energy sources, energy conversion technologies and end-use energy demands
- Can formulate and analyse proposals for strategies within energy planning, which are based on an analysis of the societal conditions
- Can critically analyse sustainable energy-related problems in relation to national and international energy policies
- Can analyse and assess energy systems from technical, economic and environmental criteria

### Competencies

- Can act as part of public organisations as well as private firms, including NGOs
- Can understand and on a scientific basis reflect on the knowledge and problems of the field of planning and in this relation identify important social problems
- Can assess the expediency of different theories and methods for independent analysis and professional problem solution
- Can formulate and analyse essential problems independently, systematically and critically by using relevant scientific methods
- Can act as part of interdisciplinary teams within the field of planning, working with the preparation and implementation of plans and strategies in Danish or international contexts
- Can develop proposals for management instruments to secure the implementation of strategies, plans and projects
- Can use the acquired knowledge to provide and initiate open and democratic planning processes
- Can participate in research within the field of planning and in this way contribute to the development of the profession
- Can independently develop own competencies and specialisation
- Can independently initiate and participate in interdisciplinary energy planning on a company, organisational level or societal level
- Can reflect critically on project-related choices of tools and their significance for analyses and results
- Can develop adequate theoretical approaches linked to specific problems/challenges and independently collect the relevant data and assess the quality and reliability of these data
- Can independently start and participate in interdisciplinary planning tasks and cooperation across societal levels, nationalities and cultures
- Can prepare proposals for technical system design and combine it with the design of public regulation and strategies in energy planning

### **Environmental Management and Sustainability Science (EMSS)**

For the specialisation in Environmental Management and Sustainability Science, the candidate acquires, in addition to the competence profile of the diploma, the following:

#### Knowledge

- Has basic knowledge of the implications of research ethics
- Has understanding of theories of science, research design and research methods relevant for conducting research within the field of environmental planning and sustainability science
- Has thorough knowledge of theories and methods in planning, administration and/or management within the public and private sector
- Basic understanding of the technical, structural and social conditions connected with the development and infrastructures of towns and regions
- Understanding of the complex processes taking place in connection with the preparation and implementation of strategies and plans, where both public and private interests prevail
- Possesses insight into and understanding of the social-technical conditions under which strategies, plans and projects are implemented
- Understanding of measurement and indicator techniques for specific resource types
- Knowledge and understanding of environmental challenges at the level of companies and organisations, as well as on a societal level
- Knowledge and understanding of institutional and organisational conditions and public regulation related to environmental planning in different national and cultural contexts
- Knowledge and understanding of how impact assessment, tools and evaluation methods connects to societal decision-making on e.g. large infrastructures, technologies or spatial developments

#### Skills



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- Can identify relevant research problems within the field of planning
- Can design a research project and use relevant research methods in order to analyse a chosen problem
- Can analyse the technical and social context of strategies and plans
- Can analyse and prepare strategies, plans and projects at different levels
- Can assess if strategies, plans, projects or infrastructure systems are expedient and feasible in technical, economic, environmental, and social respects
- Can involve the public and relevant actors at all levels in planning processes
- Can reflect on ethical matters in connection with professional practice
- Can impart research-based knowledge within the field of planning and discuss professional and scientific problems with both colleagues and non-specialists.
- Can describe and explain the technologies used to extract and use specific natural resources and can discuss possible innovations and their applicability depending on framework conditions
- Can describe existing natural resource management approaches that are applied to use, protect and/or restore specific natural resources
- Can calculate, assess and interpret total impacts of product and service systems using multiple methods
- Can communicate results of assessments to both other peers and non-specialists
- Can critically analyse environment and sustainability problems, and understand, use and analyse evaluation methods and tools for impact analyses
- Can understand and reflect on connections between institutions, public regulation and organisations, their dynamics as well as their interaction with the surrounding society
- Can critically analyse sustainability issues in relation to national and international policies

### Competencies

- Can act as part of public organisations as well as private firms, including NGOs
- Can understand and on a scientific basis reflect on the knowledge and problems of the field of planning and in this relation identify important social problems
- Can assess the expediency of different theories and methods for independent analysis and professional problem solution
- Can formulate and analyse essential problems independently, systematically and critically by using relevant scientific methods
- Can act as part of interdisciplinary teams within the field of planning, working with the preparation and implementation of plans and strategies in Danish or international contexts
- Can develop proposals for management instruments to secure the implementation of strategies, plans and projects
- Can use the acquired knowledge to provide and initiate open and democratic planning processes
- Can participate in research within the field of planning and in this way contribute to the development of the profession
- Can independently develop own competencies and specialisation
- Can formulate and analyse essential problems independently, systematically and critically by using relevant scientific methods
- Can act as part of interdisciplinary teams in Danish or international contexts
- Can reflect critically on project-related choices of tools and their significance for analyses and results
- Can independently start and participate in interdisciplinary planning tasks and cooperation across societal levels, nationalities and cultures
- Can prepare proposals for technical system design and combine it with the design of public regulation and strategies

### Cities and Sustainability (CiSu)

For the specialisation in Cities and Sustainability, the candidate acquires, in addition to the competence profile of the diploma, the following:

#### Knowledge

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- Has profound knowledge within one or more of the following subject areas that, in selected topics, are based on the highest international research
  - Sustainable Development
  - Urban Planning
  - Air Pollution
  - Climate Change
  - Ecological Economics
  - Environmental Protection and Management
  - Industrial Ecology
  - Material and energy flow analysis
  - Sustainability Assessment
  - Waste & Resource Management
  - Water, Energy and Food Nexus
- Has basic knowledge of the implications of research ethics
- Has profound knowledge of relevant national and international research work
- Has profound knowledge of theories and methods in planning, administration and/or management within the public and private sector
- Possesses specialist understanding in continuation of the previous degree/or new professional competence in addition to the previous degree
- Has thorough understanding of the technical, structural and social conditions connected with the development and infrastructures of cities
- Possesses insights into and understanding of the socio-technical and socio-economic conditions under which urban environmental and sustainability policies, strategies, plans, technologies and projects are implemented

### Skills

- Can handle the methods and tools of contemporary 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 of urban development, and on a scientific basis draw up new models of analysis and solution
- Can analyse the technical, economic and social context of which strategies and plans within sustainable urban development are a part
- Can analyse and prepare strategies, plans and projects at different levels
- Can assess if strategies, plans, projects or infrastructure systems are expedient and feasible in technical, economic, environmental, 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 motivate professionally related decisions and when necessary carry out investigations procuring a sufficient basis of decision
- Can impart research-based knowledge within the field of sustainable urban development and discuss professional and scientific problems with both colleagues and non-specialists.

### Competencies

- Can act as part of public, private, non-governmental and knowledge organisations
- Can understand and on a scientific basis reflect on the knowledge and problems of the field of sustainability and urban development, and in this relation identify important socio-technical and socio-economic problems
- Can formulate and analyse essential problems independently, systematically and critically by using relevant scientific methods
- Can assess the expediency of different theories and methods for independent analysis and professional problem solution
- Can act as part of interdisciplinary teams within the field of urban development, working with the preparation and implementation of policies, plans and strategies in national and/or international contexts
- Can participate in research within the field of sustainable urban development and in this way contribute to the enhancement of the profession
- Can independently take responsibility for and develop own competencies and specialisation

## § 17: STRUCTURE AND CONTENTS OF THE PROGRAMME

The programme is modular and organized as a problem-based study. A module is a discipline or a group of disciplines the objective of which is to give the student an entirety of professional qualifications within a specified time frame indicated in ECTS credits and which is finished with one or more examinations within certain examination periods. The examination is indicated and limited in the curriculum.

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

- lectures
- class teaching
- project work
- workshops
- assignments (individually and in groups)
- teacher feedback
- reflection
- portfolio work
- Etc.

## § 18: OVERVIEW OF THE PROGRAMME

The table below presents an overview of project modules and course modules at the four semesters of the master's programme. For the first and second semesters the four specialisations are indicated separately.

All modules are assessed through individual grading according to the 7-point scale or pass/fail (P/F). All modules are assessed by external examination (external grading) (E) or internal examination (internal grading) (I) or by assessment by the supervisor only.

| Offered as: 1-professional                                |             |      |                       |                      |                              |          |
|---|-------------|------|-----------------------|----------------------|------------------------------|----------|
| Specialisation: Urban Planning and Management             |             |      |                       |                      |                              |          |
| Study programme: Urban, Energy and Environmental Planning |             |      |                       |                      |                              |          |
| Module name   | Course type | ECTS | Applied grading scale | Evaluation method    | Assessment method            | Language |
| <b>1 SEMESTER</b>   |             |      |                       |                      |                              |          |
| <a href="#">Theories of Science and Research Designs</a>  | Course      | 5    | Passed/Not Passed     | Internal examination | Written or oral exam         | English  |
| <a href="#">The Complex City</a>                          | Project     | 15   | 7-point grading scale | Internal examination | Oral exam based on a project | English  |
| <a href="#">Planning History and Urban Theory</a>         | Course      | 5    | 7-point grading scale | Internal examination | Written or oral exam         | English  |
| <a href="#">Sustainable Urban Planning</a>                | Course      | 5    | Passed/Not Passed     | Internal examination | Written or oral exam         | English  |
| <b>2 SEMESTER</b>   |             |      |                       |                      |                              |          |
| <a href="#">The Socio-Technical Context of Planning</a>   | Course      | 5    | 7-point grading scale | Internal examination | Written or oral exam         | English  |

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|  |         |    |                       |                      |                               |         |
|--|---------|----|-----------------------|----------------------|-------------------------------|---------|
| <a href="#">Power in Planning</a>          | Project | 15 | 7-point grading scale | External examination | Oral exam based on a project  | English |
| <a href="#">The Deliberative Planner</a>   | Course  | 5  | Passed/Not Passed     | Internal examination | Written or oral exam          | English |
| <a href="#">Planning Theory</a>            | Course  | 5  | 7-point grading scale | Internal examination | Written or oral exam          | English |
| <b>3 SEMESTER</b><br>Option 1              |         |    |                       |                      |                               |         |
| <a href="#">Professional Development</a>   | Project | 30 | 7-point grading scale | Internal examination | Oral exam based on a project  | English |
| <b>3 SEMESTER</b><br>Option 2              |         |    |                       |                      |                               |         |
| <a href="#">3rd semester option - EMSS</a> |         |    |                       |                      |                               |         |
| <b>3 SEMESTER</b><br>Option 3              |         |    |                       |                      |                               |         |
| <a href="#">3rd semester option - SEPM</a> |         |    |                       |                      |                               |         |
| <b>3 SEMESTER</b><br>Option 4              |         |    |                       |                      |                               |         |
| <a href="#">3rd semester option - CiSu</a> |         |    |                       |                      |                               |         |
| <b>3 SEMESTER</b><br>Option 5              |         |    |                       |                      |                               |         |
| <a href="#">3rd semester option - GEO</a>  |         |    |                       |                      |                               |         |
| <b>3-4 SEMESTER</b><br>Option 6            |         |    |                       |                      |                               |         |
| <a href="#">Extended Master's Thesis</a>   | Project | 60 | 7-point grading scale | External examination | Master's thesis/final project | English |
| <b>4 SEMESTER</b>                          |         |    |                       |                      |                               |         |
| <a href="#">Master's Thesis</a>            | Project | 30 | 7-point grading scale | External examination | Oral exam based on a project  | English |

**International or National Credit**

After previous approval by the Study Board, the 3<sup>rd</sup> semester may be transferred to another educational institution. Previous approval (pre-credit) may be expected if these studies can give the student appropriate know-ledge, skills and competencies.

| <b>Offered as: 1-professional</b><br><b>Specialisation: Sustainable Energy Planning and Management</b><br><b>Study programme: Urban, Energy and Environmental Planning</b> |             |       |                       |                      |                              |          |
|--|-------------|-------|-----------------------|----------------------|------------------------------|----------|
| Module name  | Course type | ECT S | Applied grading scale | Evaluation method    | Assessment method            | Language |
| <b>1 SEMESTER</b>  |             |       |                       |                      |                              |          |
| <a href="#">Theories of Science and Research Designs</a>   | Course      | 5     | Passed/Not Passed     | Internal examination | Written or oral exam         | English  |
| <a href="#">Sustainable Energy Planning in a Technical and Business Economic Perspective</a>   | Project     | 15    | 7-point grading scale | Internal examination | Oral exam based on a project | English  |

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|  |         |    |                       |                      |                               |         |
|--|---------|----|-----------------------|----------------------|-------------------------------|---------|
| <a href="#">Energy Project Evaluation</a>  | Course  | 5  | 7-point grading scale | Internal examination | Written or oral exam          | English |
| <a href="#">Energy System Analysis 1</a>   | Course  | 5  | Passed/Not Passed     | Internal examination | Written or oral exam          | English |
| <b>2 SEMESTER</b>  |         |    |                       |                      |                               |         |
| <a href="#">The Socio-Technical Context of Planning</a>                                  | Course  | 5  | 7-point grading scale | Internal examination | Written or oral exam          | English |
| <a href="#">Sustainable Energy Planning in an Institutional and Societal Perspective</a> | Project | 15 | 7-point grading scale | External examination | Oral exam based on a project  | English |
| <a href="#">Sustainable Energy Policies</a>  | Course  | 5  | Passed/Not Passed     | Internal examination | Written or oral exam          | English |
| <a href="#">Energy System Analysis 2</a>   | Course  | 5  | Passed/Not Passed     | Internal examination | Written or oral exam          | English |
| <b>3 SEMESTER</b><br>Option 1  |         |    |                       |                      |                               |         |
| <a href="#">Professional Development</a>   | Project | 30 | 7-point grading scale | Internal examination | Oral exam based on a project  | English |
| <b>3 SEMESTER</b><br>Option 2  |         |    |                       |                      |                               |         |
| <a href="#">3rd semester option - UPM</a>  |         |    |                       |                      |                               |         |
| <b>3 SEMESTER</b><br>Option 3  |         |    |                       |                      |                               |         |
| <a href="#">3rd semester option - EMSS</a>   |         |    |                       |                      |                               |         |
| <b>3 SEMESTER</b><br>Option 4  |         |    |                       |                      |                               |         |
| <a href="#">3rd semester option - CiSu</a>   |         |    |                       |                      |                               |         |
| <b>3 SEMESTER</b><br>Option 5  |         |    |                       |                      |                               |         |
| <a href="#">3rd semester option - GEO</a>  |         |    |                       |                      |                               |         |
| <b>3-4 SEMESTER</b><br>Option 6  |         |    |                       |                      |                               |         |
| <a href="#">Extended Master's Thesis</a>   | Project | 60 | 7-point grading scale | External examination | Master's thesis/final project | English |
| <b>4 SEMESTER</b>  |         |    |                       |                      |                               |         |
| <a href="#">Master's Thesis</a>  | Project | 30 | 7-point grading scale | External examination | Oral exam based on a project  | English |

**International or National Credit**

After previous approval by the Study Board, the 3<sup>rd</sup> semester may be transferred to another educational institution. Previous approval (pre-credit) may be expected if these studies can give the student appropriate know-ledge, skills and competencies.

Offered as: 1-professional

Specialisation: Environmental Management and Sustainability Science

Study programme: Urban, Energy and Environmental Planning

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| Module name   | Course type | ECTS | Applied grading scale | Evaluation method    | Assessment method             | Language |
|---|-------------|------|-----------------------|----------------------|-------------------------------|----------|
| <b>1 SEMESTER</b>   |             |      |                       |                      |                               |          |
| <a href="#">Theories of Science and Research Designs</a>                              | Course      | 5    | Passed/Not Passed     | Internal examination | Written or oral exam          | English  |
| <a href="#">Corporate Sustainability Management</a>                                   | Project     | 15   | 7-point grading scale | Internal examination | Oral exam based on a project  | English  |
| <a href="#">Sustainable Consumption and Production</a>                                | Course      | 5    | Passed/Not Passed     | Internal examination | Written or oral exam          | English  |
| <a href="#">Sustainable Products and Services</a>                                     | Course      | 5    | 7-point grading scale | Internal examination | Written or oral exam          | English  |
| <b>2 SEMESTER</b>   |             |      |                       |                      |                               |          |
| <a href="#">The Socio-Technical Context of Planning</a>                               | Course      | 5    | 7-point grading scale | Internal examination | Written or oral exam          | English  |
| <a href="#">Sustainability Management in a Societal and Institutional Perspective</a> | Project     | 15   | 7-point grading scale | External examination | Oral exam based on a project  | English  |
| <a href="#">Natural Resource Management</a>   | Course      | 5    | Passed/Not Passed     | Internal examination | Written or oral exam          | English  |
| <a href="#">Sustainability Assessment and Societal Decision Processes</a>             | Course      | 5    | 7-point grading scale | Internal examination | Written or oral exam          | English  |
| <b>3 SEMESTER</b><br>Option 1   |             |      |                       |                      |                               |          |
| <a href="#">Professional Development</a>  | Project     | 30   | 7-point grading scale | Internal examination | Oral exam based on a project  | English  |
| <b>3 SEMESTER</b><br>Option 2   |             |      |                       |                      |                               |          |
| <a href="#">3rd semester option - UPM</a>   |             |      |                       |                      |                               |          |
| <b>3 SEMESTER</b><br>Option 3   |             |      |                       |                      |                               |          |
| <a href="#">3rd semester option - SEPM</a>  |             |      |                       |                      |                               |          |
| <b>3 SEMESTER</b><br>Option 4   |             |      |                       |                      |                               |          |
| <a href="#">3rd semester option - CiSu</a>  |             |      |                       |                      |                               |          |
| <b>3 SEMESTER</b><br>Option 5   |             |      |                       |                      |                               |          |
| <a href="#">3rd semester option - GEO</a>   |             |      |                       |                      |                               |          |
| <b>3-4 SEMESTER</b><br>Option 6   |             |      |                       |                      |                               |          |
| <a href="#">Extended Master's Thesis</a>  | Project     | 60   | 7-point grading scale | External examination | Master's thesis/final project | English  |
| <b>4 SEMESTER</b>   |             |      |                       |                      |                               |          |
| <a href="#">Master's Thesis</a>   | Project     | 30   | 7-point grading scale | External examination | Oral exam based on a project  | English  |

International or National Credit

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After previous approval by the Study Board, the 3<sup>rd</sup> semester may be transferred to another educational institution. Previous approval (pre-credit) may be expected if these studies can give the student appropriate know-ledge, skills and competencies.

| Offered as: 1-professional  |             |       |                       |                      |                              |          |
|---|-------------|-------|-----------------------|----------------------|------------------------------|----------|
| Specialisation: Cities and Sustainability                                 |             |       |                       |                      |                              |          |
| Study programme: Urban, Energy and Environmental Planning                 |             |       |                       |                      |                              |          |
| Module name   | Course type | ECT S | Applied grading scale | Evaluation method    | Assessment method            | Language |
| <b>1 SEMESTER</b>   |             |       |                       |                      |                              |          |
| <a href="#">Theories of Science and Research Designs</a>                  | Course      | 5     | Passed/Not Passed     | Internal examination | Written or oral exam         | English  |
| <a href="#">Sustainable Urban Planning</a>                                | Course      | 5     | Passed/Not Passed     | Internal examination | Written or oral exam         | English  |
| <a href="#">Urban Transformations and Sustainable Engineering</a>         | Project     | 15    | 7-point grading scale | Internal examination | Oral exam based on a project | English  |
| <a href="#">Climate Change, Adaptation, and the City</a>                  | Course      | 5     | 7-point grading scale | Internal examination | Written or oral exam         | English  |
| <b>2 SEMESTER</b>   |             |       |                       |                      |                              |          |
| <a href="#">The Socio-Technical Context of Planning</a>                   | Course      | 5     | 7-point grading scale | Internal examination | Written or oral exam         | English  |
| <a href="#">Sustainability Assessment and Societal Decision Processes</a> | Course      | 5     | 7-point grading scale | Internal examination | Written or oral exam         | English  |
| <a href="#">Designing Smarter Cities</a>                                  | Project     | 15    | 7-point grading scale | External examination | Oral exam based on a project | English  |
| <a href="#">Theories of the Network City and its Technologies</a>         | Course      | 5     | 7-point grading scale | Internal examination | Written or oral exam         | English  |
| <b>3 SEMESTER</b>   |             |       |                       |                      |                              |          |
| Option 1  |             |       |                       |                      |                              |          |
| <a href="#">Professional Development</a>                                  | Project     | 30    | 7-point grading scale | Internal examination | Oral exam based on a project | English  |
| <b>3 SEMESTER</b>   |             |       |                       |                      |                              |          |
| Option 2  |             |       |                       |                      |                              |          |
| <a href="#">3rd semester option - UPM</a>                                 |             |       |                       |                      |                              |          |
| <b>3 SEMESTER</b>   |             |       |                       |                      |                              |          |
| Option 3  |             |       |                       |                      |                              |          |
| <a href="#">3rd semester option - EMSS</a>                                |             |       |                       |                      |                              |          |
| <b>3 SEMESTER</b>   |             |       |                       |                      |                              |          |
| Option 4  |             |       |                       |                      |                              |          |
| <a href="#">3rd semester option - SEPM</a>                                |             |       |                       |                      |                              |          |
| <b>3 SEMESTER</b>   |             |       |                       |                      |                              |          |
| Option 5  |             |       |                       |                      |                              |          |
| <a href="#">3rd semester option - GEO</a>                                 |             |       |                       |                      |                              |          |
| <b>3-4 SEMESTER</b>   |             |       |                       |                      |                              |          |
| Option 6  |             |       |                       |                      |                              |          |

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|  |         |    |                       |                      |                               |         |
|--|---------|----|-----------------------|----------------------|-------------------------------|---------|
| <a href="#">Extended Master's Thesis</a> | Project | 60 | 7-point grading scale | External examination | Master's thesis/final project | English |
| <b>4 SEMESTER</b>                        |         |    |                       |                      |                               |         |
| <a href="#">Master's Thesis</a>          | Project | 30 | 7-point grading scale | External examination | Oral exam based on a project  | English |

#### International or National Credit

After previous approval by the Study Board, the 3<sup>rd</sup> semester may be transferred to another educational institution. Previous approval (pre-credit) may be expected if these studies can give the student appropriate knowledge, skills and competencies.

The programme is taught 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 enters into force as of September 1, 2017.

Students who wish to complete their studies under the previous curriculum from 2010 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.

4. July 2019: The Advised Dean of Education has approved, that the learning objectives and title for the module "*Climate and Hydrology of the Dense City*" on the 1st semester is changed from September 2019. The module will get the new title "*Climate Change, Adaption, and the City*". The revised learning objectives is stated in the module description.