AALBORG UNIVERSITET

# CURRICULUM FOR THE MASTER'S PROGRAMME (CAND.TECH) IN SURVEYING AND PLANNING - 2017 - COPENHAGEN

MASTER OF SCIENCE (MSC) IN TECHNOLOGY
COPENHAGEN

# Curriculum for the Master's Programme (cand.tech) in Surveying and Planning - 2017 - Copenhagen

Link to this studyline

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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 Surveying and Planning 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.

Commencement of this curriculum is 1. September 2017 (only 1st semester).

## § 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 Surveying Programme

## § 7: ADMISSION REQUIREMENTS

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

- Bachelor's degree in Surveying, Planning and Land Management, Aalborg University.
- Bachelor's degree in Geography, Copenhagen University
- Bachelor's degree in Geography, Roskilde University

**Applicants without legal claim to 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.

All international students applying to Aalborg University must document English language qualifications comparable to an 'English B level' in the Danish upper secondary school (minimum average grade 02).

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

The Master's programme entitles the graduate to the Danish designation Cand.tech. i landinspektørvidenskab med specialisering i:

- geoinformatik

The English designation is: Master of Science (MSc) in Technology (Surveying and Planning) with specialisation in:

- Geoinformatics

## § 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 at this website: https://www.studieservice.aau.dk/Studielegalitet/

## § 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

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.

## § 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

**Competence profile of the Master's program (cand.tech.) with specialisation in Geoinformatics**

The graduate of the Master's program:

Knowledge

- Has knowledge in geospatial information technology, distributed geo-services, 3D-visualisation, spatial data infrastructure, and geocomputation based on the highest international research in the subject areas
- Can understand and, on a scientific basis, make reflections on the knowledge and identify scientific problems regarding the development of spatial enabled services, advanced geovisualisation technologies, spatial data infrastructures, geocomputation, image processing and spatial decision support systems

Skills

- Excels in the scientific methods and tools and general skills related to all aspects of geographic information
- Can evaluate and select among the scientific theories, methods, tools regarding data storage, flow, processing, and visualisation - and on a scientific basis, advance new analyses and solutions
- Can communicate research-based knowledge and discuss professional and scientific problems with both peers and non-specialists on geographic information technology.

Competencies

- Can use advanced geospatial theories, methods and tools to manage work and development situations that are complex, unpredictable and require new solutions.
- Can independently initiate and implement discipline-specific and interdisciplinary cooperation and assume professional responsibility on all aspects of geographic information technology.
- Can independently take responsibility for own professional development and specialisation on geographic information

## § 17: STRUCTURE AND CONTENTS OF THE PROGRAMME

The program is structured in modules and organized 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 that are defined in the curriculum.

The program is based on a combination of academic, problem-oriented and interdisciplinary approaches and organized based on the following work and evaluation methods that combine skills and reflection:

- lectures
- classroom instruction
- project work
- workshops
- exercises (individually and in groups)
- teacher feedback

By prior agreement with the study board, it is possible for students to attend modules offered at other relevant master programmes.

**Completion of the Master's program**

The Master's program must be completed no later than four years after it was begun.

## § 18: OVERVIEW OF THE PROGRAMME

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

All modules are taught in English.

### Offered as: 1-professional

| Specialisation: Geoinformatics<br>Study programme: Surveying, Planning and Land Management | | | | | |
|---|---|---|---|---|---|
| Module name | Course type | ECTS | Applied grading scale | Evaluation method | Assessment method |
| 1 SEMESTER | | | | | |
| Surveying, Geoinformatics or Land Management | Project | 20 | 7-point grading scale | Internal examination | Oral exam based on a project |
| Geospatial Information Technology | Course | 5 | Passed/Not Passed | Internal examination | Written exam |
| Modern Data Acquisition Methods | Course | 5 | Passed/Not Passed | Internal examination | Written or oral exam |
| 2 SEMESTER | | | | | |
| GI – Integration, Applications and Society | Project | 20 | 7-point grading scale | External examination | Oral exam based on a project |
| Geocomputation and Spatial Analytics | Course | 5 | Passed/Not Passed | Internal examination | Written exam |
| Geovisualisation | Course | 5 | Passed/Not Passed | Internal examination | Written exam |
| 3 SEMESTER<br>Option 1 | | | | | |
| Professional Development | Project | 30 | 7-point grading scale | Internal examination | Oral exam based on a project |
| 3 SEMESTER<br>Option 2 | | | | | |
| 3rd semester option - SM | | | | | |
| 3 SEMESTER<br>Option 3 | | | | | |
| 3rd semester option - LM | | | | | |
| 3-4 SEMESTER<br>Option 4 | | | | | |
| Extended Master's Thesis | Project | 60 | 7-point grading scale | External examination | Oral exam based on a project |
| 4 SEMESTER | | | | | |
| Master's Thesis | Project | 30 | 7-point grading scale | External examination | Oral exam based on a project |

| 3rd semester option - SM | | | | | |
|---|---|---|---|---|---|
| Module name | Course type | ECTS | Applied grading scale | Evaluation Method | Assessment method |
| Surveying, Geoinformatics or Land Management | Project | 20 | 7-point grading scale | Internal examination | Oral exam based on a project |
| Managing the Use of Land | Course | 5 | Passed/Not Passed | Internal examination | Active participation and/or written assignment |

| | | | | | |
|---|---|---|---|---|---|
| 3rd Semester Assignment | Project | 5 | Passed/Not Passed | Internal examination | Written exam |

| 3rd semester option - LM | | | | | |
|---|---|---|---|---|---|
| Module name | Course type | ECTS | Applied grading scale | Evaluation Method | Assessment method |
| Surveying, Geoinformatics or Land Management | Project | 20 | 7-point grading scale | Internal examination | Oral exam based on a project |
| Managing the Use of Land | Course | 5 | Passed/Not Passed | Internal examination | Active participation and/or written assignment |
| 3rd Semester Assignment | Project | 5 | Passed/Not Passed | Internal examination | Written exam |

**National or International Credit**

After preceding approval by the Study Board the 3rd semester can be carried through at another educational institution in Denmark or abroad. Preceding approval (pre-credit) may be expected if studies at another educational institution will impart knowledge, skills and competences which correspond to the knowledge, skills and competences that could otherwise be obtained by following “Project semester – with or without an integrated project-oriented stay in a company”, see above.

## § 19: ADDITIONAL INFORMATION

The current version of the curriculum is published on the Board of Studies’ website, including more detailed information about the program, 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

The curriculum is approved by the Dean of The Technical Faculty of IT and Design, and enters into force as of 1th of September 2017 (only 1st semester).

Students who wish to complete their studies under the previous curriculum from 2015 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 been in connection with with digitalisation of the curriculum.