CURRICULUM FOR THE MASTER’S PROGRAMME IN IT DESIGN AND APPLICATION DEVELOPMENT, 2020

MASTER OF SCIENCE (MSC) IN INFORMATION TECHNOLOGY
AALBORG
INDHOLDSFORTEGNELSE

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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 Faculty.

§ 2: BASIS IN MINISTERIAL ORDERS

The Master’s programme is organised in accordance with the Ministry of Higher Education and Science’s Order no. 20 of January 9, 2020 on Bachelor’s and Master’s Programmes at Universities (the Ministerial Order of the Study Programmes) and Ministerial Order no. 22 of January 9, 2020 on University Examinations (the Examination Order). Further reference is made to Ministerial Order no. 153 of February 26, 2020 (the Admission Order) and Ministerial Order no. 114 of February 3, 2015 (the Grading Scale Order).

§ 3: CAMPUS

The programme is offered in Aalborg.

§ 4: FACULTY AFFILIATION

The Master’s programme falls under Technical Faculty of IT and Design, Aalborg University.

§ 5: STUDY BOARD AFFILIATION

The Master’s programme falls under Study Board of Computer Science.

§ 6: AFFILIATION TO CORPS OF EXTERNAL EXAMINERS

The Master’s programme is associated with the external examiners corps on Computer Science.

§ 7: ADMISSION REQUIREMENTS

Applicants without legal right of admission

- Bachelor of Science (BSc) in Techno-Anthropology
- Bachelor of Science (BSc) in Economics and Business Administration
- Bachelor of Science (BSc) in Sociology

§ 8: THE PROGRAMME TITLE IN DANISH AND ENGLISH

The Master’s programme entitles the graduate to the Danish designation Cand.it. i it-design og applikationsudvikling. The English designation is: Master of Science (MSc) in Information Technology (IT Design and Application Development).

§ 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/Studielegalitet/

§ 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. If the project is written in English, the summary can be in Danish. The summary is included in the evaluation of the project as a whole.

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

It is assumed that the student can read academic texts in modern English and use reference works, etc.

§ 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

Master’s programme

Knowledge

- Has knowledge about research approaches in IT application design and software development
- Can understand, and on a scientific basis, reflect over knowledge in application development and identify relevant research problems
- Has knowledge about key topics in system development and human-computer interaction based on the highest international research in these areas

Skills

- Excels in the scientific methods and tools of the discipline
- Can design software systems for complex application areas and advance new innovative solutions
- Can evaluate the qualities of software systems in relation to their use in human and social activities
- Can describe and analyse experiences from software development practice
Is proficient in communicating research-based knowledge and discussing professional and scientific problems with both peers and non-specialists

**Competencies**

A Master in IT Design and Application Development can:

- Independently initiate and implement professional activities in information systems, interdisciplinary cooperation and assume professional responsibility
- Manage work and situations in software development that are complex, uncertain and require new solutions
- Independently take responsibility for own professional development and specialization

**§ 17: STRUCTURE AND CONTENTS OF THE PROGRAMME**

The programme 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. Examinations 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
- reflection
- portfolio work

**§ 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)

_Problem Based Learning:_

A compulsory course in Problem Based Learning (PBL) is offered as an integrated part of the project module to students not acquainted with PBL at Aalborg University.

<table>
<thead>
<tr>
<th>Offered as: 1-professional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module name</td>
</tr>
<tr>
<td><strong>1 SEMESTER</strong></td>
</tr>
<tr>
<td>Computational Thinking</td>
</tr>
<tr>
<td>Development of Software</td>
</tr>
<tr>
<td>Information and Organization</td>
</tr>
</tbody>
</table>
### Introduction to Programming
- **Course**: 5
- **ECTS**: 7-point grading scale
- **Examination**: Internal examination
- **Assessment**: Written or oral exam
- **Language**: English

#### 2 SEMESTER

<table>
<thead>
<tr>
<th>Course</th>
<th>Type</th>
<th>ECTS</th>
<th>Applied grading scale</th>
<th>Evaluation Method</th>
<th>Assessment method</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of an Application</td>
<td>Project</td>
<td>15</td>
<td>7-point grading scale</td>
<td>External examination</td>
<td>Oral exam based on a project</td>
<td>Danish and English</td>
</tr>
<tr>
<td>Systems Development</td>
<td>Course</td>
<td>5</td>
<td>7-point grading scale</td>
<td>Internal examination</td>
<td>Written or oral exam</td>
<td>Danish and English</td>
</tr>
<tr>
<td>Design and Evaluation of User Interfaces</td>
<td>Course</td>
<td>5</td>
<td>7-point grading scale</td>
<td>Internal examination</td>
<td>Written or oral exam</td>
<td>Danish and English</td>
</tr>
<tr>
<td>Foundational Object-Oriented Programming</td>
<td>Course</td>
<td>5</td>
<td>7-point grading scale</td>
<td>Internal examination</td>
<td>Written or oral exam</td>
<td>Danish and English</td>
</tr>
</tbody>
</table>

#### 3 SEMESTER

<table>
<thead>
<tr>
<th>Course</th>
<th>Type</th>
<th>ECTS</th>
<th>Applied grading scale</th>
<th>Evaluation Method</th>
<th>Assessment method</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agile Software Engineering</td>
<td>Course</td>
<td>5</td>
<td>7-point grading scale</td>
<td>External examination</td>
<td>Written or oral exam</td>
<td>Danish</td>
</tr>
<tr>
<td>Database Development</td>
<td>Course</td>
<td>5</td>
<td>Passed/Not Passed</td>
<td>Internal examination</td>
<td>Written or oral exam</td>
<td>Danish and English</td>
</tr>
<tr>
<td>Entrepreneurship</td>
<td>Course</td>
<td>5</td>
<td>7-point grading scale</td>
<td>Internal examination</td>
<td>Written or oral exam</td>
<td>Danish</td>
</tr>
</tbody>
</table>

#### 4 SEMESTER

<table>
<thead>
<tr>
<th>Course</th>
<th>Type</th>
<th>ECTS</th>
<th>Applied grading scale</th>
<th>Evaluation Method</th>
<th>Assessment method</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master's Thesis</td>
<td>Project</td>
<td>30</td>
<td>7-point grading scale</td>
<td>External examination</td>
<td>Master's thesis/final project</td>
<td>Danish and English</td>
</tr>
</tbody>
</table>

### Elective projects on 3. semester
- **Choose 1 project**

<table>
<thead>
<tr>
<th>Module name</th>
<th>Type</th>
<th>ECTS</th>
<th>Applied grading scale</th>
<th>Evaluation Method</th>
<th>Assessment method</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of Software Applications</td>
<td>Project</td>
<td>15</td>
<td>7-point grading scale</td>
<td>External examination</td>
<td>Oral exam based on a project</td>
<td>Danish and English</td>
</tr>
<tr>
<td>Theoretical Investigation of Software Applications</td>
<td>Project</td>
<td>15</td>
<td>7-point grading scale</td>
<td>External examination</td>
<td>Oral exam based on a project</td>
<td>Danish and English</td>
</tr>
</tbody>
</table>

### § 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.

### § 20: COMMENCEMENT AND TRANSITIONAL RULES

The curriculum is approved by the dean and enters into force as of the Dean of The Technical Faculty of IT and Design and enters into force as of September, 2020.

Students who wish to complete their studies under the previous curriculum from 2017 must conclude their education by the summer examination period 2020 at the latest, since examinations under the previous curriculum are not offered after this time.

### § 21: AMENDMENTS TO THE CURRICULUM AND REGULATIONS