Curriculum for the Master of Science Programme in Information Technology at the IT University of Copenhagen, Digital Innovation and Management

Curriculum of 1 September 2018
Revised 1 September 2020
Revised 1 September 2022
Revised 29 January 2024

Content

Background

This curriculum for the Master of Science Programme in Information Technology, Digital Innovation Management, has been drawn up by the Board of Studies ITU at the IT University of Copenhagen (henceforth referred to as the IT University). The curriculum has been drawn up in compliance with the current legislation governing bachelor's and master's (Candidatus) programmes at the universities.

Students enrolled in the above MSc study programme with study start from the autumn of 2021 study according to this curriculum.

Chapter 1

Programme Title and Objectives

Title

Section 1. A student, who has completed the programme, has the right to use the title candidatus/candidate informationis technologiae (cand.it.) i Digital Innovation og Management.

Subsection 2. The title in English is Master of Science (MSc) in Information Technology, Digital Innovation and Management.

Programme Objectives

Section 2. The purpose of the Master of Science Programme in Information Technology is to provide students with the scientific qualifications to identify, formulate, solve and reflect on complex problems relating to information technology.

Subsection 2. The programme prioritises the student's ability to assess, apply and develop the underlying technology as well as the scientific theories, methods and tools upon which it is based.

Subsection 3. The student must have the ability to independently initiate and carry out collaborative work in professional and multidisciplinary settings. Furthermore, the student must have the ability to engage in global and distributed interaction, drawing on research-based perspectives.

Subsection 4. On the background of the student's preceding bachelor's programme, the programme provides the student with the qualifications to define his or her own academic profile within the field of information technology and to take independent responsibility for his or her own professional development and specialisation.

Subsection 5. Within the framework of the programme, the student can acquire the requisite individual qualifications for specialised posts in business and industry as well as for research training programmes (PhD programme) in information technology.

Objectives for Learning Output

Section 3. The graduate will develop *knowledge and understanding of*, as well as the ability to *reflect on*:

- Significant research-based theories of digital innovation, process-oriented management, process innovation and organising innovation, based on the highest level of international research.
- Significant research-based social theories of the impact and use of data and information technologies in organisations and in society
- Significant social research methods for investigating IT as a socio-technical, managerial,and organisational challenge and opportunity.
- Key concepts for using computational methods to solve complex problems.
  Key research issues, problems and challenges in the field of digital innovation and management.

Subsection 2. The graduate will develop the following *skills:*

- The graduate will master scientific methods and tools for digital innovation and management, including process innovation, IT-project management, and decision-making.
- The graduate can constructively and critically identify, analyse, interpret, as well as suggest both orthodox and unorthodox solutions to complex problems in organisational settings.

- The graduate can select and deploy methods for managing organisational change.
- The graduate can select among various computational methods to understand and solve complex problems related to the management of organisations.
- The graduate can communicate research-based findings and issues to decision-makers, specialists, and non-specialists alike.

Subsection 3. The graduate will develop the following *competences:*

- The graduate can facilitate collaboration and manage projects in multi-disciplinary, global and dynamic work environments.
- The graduate can facilitate knowledge sharing, negotiate issues, broker information and translate across expert fields in digital innovation and management.
- The graduate is able to initiate, carry out, and take responsibility for continuous and radical process management and innovation in dynamic work environments.
- The graduate can assess and take responsibility for their own professional development and ongoing specialization within the area of digital innovation and management.

Chapter 2

Programme Structure, Content and Programme Language

Programme Structure

Section 4. The Master of Science programme requires passes in study activities corresponding to 120 ECTS points consisting of a mandatory backbone, optional modules that encompass a specialisation, and a master's thesis.

Subsection 2. The study activities of the programme are composed of modules corresponding to 90 ECTS points and a concluding master’s thesis corresponding to 30 ECTS points.

Subsection 3. A Graphic overview of the programme structure is available from the IT University’sonline student handbook.

Programme Content

Section 5. The mandatory backbone of the MSc study programme Digital Innovation & Management consists of modules corresponding to 60ECTS points within the first three terms, including a mandatory module in programming and data processing of 7,5 ECTS.

The content of the mandatory backbone focuses on advanced theories and methods for managing complexity, understanding and organising innovation, computational problem-solving, designing information processes and managing change induced by digitalisation in an organisational context.

Modules contain theories and methods for analysing, managing strategising in relation to digital technologies as a complex socio-technical problem and solution, including advanced social theories and qualitative methods, project management techniques, technologies and techniques used for managing and organising, process modeling techniques for process innovation, innovation models and techniques, computational approaches, methods for change management, as well as methods for cooperation in heterogeneous work environments.

Subsection 2. The optional modules of the MSc study programme correspond to 30 ECTS

points within the first three terms, of which 22,5 ECTS constitute a specialisation. Specialisations are offered as course packages, which students choose between.

Subsection 3. Students, who have already passed study activities of 5 ECTS with significant overlaps to the module in programming and data processing, will have the module replaced by an elective study activity of 7,5 ECTS.

Programme Language

Section 6. The MSc Digital innovation and Management study programme is conducted in English.

Master Thesis

Section 7. The thesis is worth 30 ECTS points and must document skills in applying scientific theories and methods while working within the study programme's subject area.

Subsection 2. The thesis is placed on the final year of the programme. The student must have obtained 60 ECTS of the programme before writing the thesis.

Subsection 3. The abstract must be written in English.

Subsection 4. Intended learning outcomes for the Master thesis in Digital Innovation and Management:

- To independently conceive, execute and communicate a study that applies relevant methods and theories and fulfills standards of academic writing.
- To define a research question that relates to the program
- To motivate the choice of theory or other literature used to address the research question
- To motivate the choice of research method(s) used to address the research question
- To conduct and document the analysis through the selection and processing of primary and secondary sources or the development of an artefact.
- To demonstrate coherence between the research question, method, analysis and conclusion.
- To discuss and evaluate the quality and contribution of the study and the analytical and possible empirical results raised by the research.

Subsection 5. Information on examination for Master theses can be found in the appendix.

Chapter 3

General Rules and Miscellaneous Regulation

Section 7. Furthermore, please refer to the IT University's rules and regulation, appendix to this curriculum.

Chapter 4

Date of Commencement and Transitional Regulations

Section 8. This curriculum comes into force 1 September 2022 and applies to all students admitted to the programme from autumn 2021.

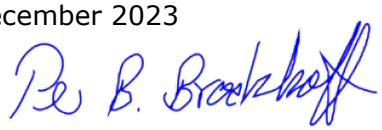
Subsection 2. Students, who are enrolled under previous curriculums, may apply to the Board of Studies ITU to complete the programme under the present curriculum if this can be done within a maximum of 120 ECTS point.

Subsection 3. When a new curriculum is published, or in the event of significant changes to this curriculum, transitional regulations will be set out in the curriculum as appendix.

Subsection 4. Revision to this curriculum regarding Section 7 Master Thesis comes into force 29 January 2024.

Approved by the Board of Studies ITU 6 September 2023

Approved by Rector Per Bruun Brockhoff 1 December 2023



Appendix

Transitional Regulations:
Students admitted before autumn 2021, who have not passed the mandatory course on third semester, Cross-disciplinary Team Work, by the re-exam period in March 2022 at the latest, will replace Cross-disciplinary Team Work with an elective.