

# Curriculum for the Master of Science Programme in Information Technology at the IT University of Copenhagen, Games

Curriculum of 1 June 2015

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## Background

This curriculum for the Master of Science Programme in Information Technology, Games, 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 programmes with study start from autumn of 2015 study according to this curriculum.

## Chapter 1

### Programme Title and Objectives

#### *Programme Title*

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

*Subsection 2.* The title in English is Master of Science (MSc) in Information Technology, Games.

### *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*:

- significant theories related to the understanding of media and games technologies and their cultural and social impact, based on the highest international research within each subject area
- tools, methods and techniques applicable to the development of innovate and creative media and games technologies
- tools, applications and theories applicable to the development and programming of complex media and games technologies

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

- The graduate can identify and characterize a wide set of theories and technologies for the development of media and games technologies and products
- The graduate can recognize the impact and projection of innovative developments in the field of media and games technologies

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

- The graduate can design and develop innovative technologies and concepts within games based on a scientific analysis<sup>10</sup>
- The graduate can manage the complex and unpredictable processes of game development within local and global production requirements
- The graduate can reconcile the limitlessness of creative ideas with the limitations of system requirements
- The graduate can bring about products, prototypes and theories which make appropriate use and analysis of media and games technologies
- The graduate can collaborate with others in interdisciplinary and varied local and global teams in a game design and development process

*Subsection 4.* Additional track specific *competences* for graduates are:

Design and Theory track:

- The graduate can design and develop innovative games and media based on scientific research
- The graduate can carry out research on the relevance of computer games in our culture, society, politics and economics
- Each graduate obtains *competences* in at least one of the above areas, depending on the selected specialisation module.

Technology track:

- The graduate can develop innovative technologies applied to the fields of digital leisure.

## 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, a specialization, optional modules 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.* Graphic overview of the Technology track and Design & Theory track programme structure is found at the IT University's online Study Guide.

#### *Programme Content*

**Section 5.** The mandatory backbone of the MSc study programme *Games, the Design & Theory track*, consists of modules corresponding to 45 ECTS points within the first three terms.

*Subsection 2.* The specialisation of the MSc study programme consists of study activities corresponding to 30 ECTS points within the first three terms.

*Subsection 3.* The optional study activities of the MSc study programme correspond to 15 ECTS points within the first three terms.

*Subsection 4.* The mandatory backbone of the Design & Theory track consists of three modules. Students will have to choose between module 3a and 3b:

<b>1. Game Theory (15 ECTS)</b>
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The module focuses on the analysis of games and their culture on the basis of research-based studies.
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<b>2. Game Design (15 ECTS)</b>
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The module focuses on the application of design research to computer game design as well as the design and development of prototypes.
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<i>3a. Game Development (15 ECTS)</i>
The module focuses on the development of innovative products expanding game technologies, based on a structured and scientific perspective.
<i>3b. Digital Game Theory (15 ECTS)</i>
The module focuses on the advanced analysis of computer games from a highly academic perspective.

**Section 6.** The mandatory backbone of the MSc study programme Games, the *Technology track*, consists of modules corresponding to 45 ECTS points within the first three terms.

*Subsection 2.* The specialisation of the MSc study programme consists of modules corresponding to 30 ECTS points within the first three terms.

*Subsection 3.* The optional modules of the MSc study programme correspond to 15 ECTS points within the first three terms.

*Subsection 4.* The mandatory backbone of the Technology track consists of the following three modules:

<i>1. Programming (15 ECTS)</i>
The module focuses on programming techniques applicable to computer games, centred on research-based studies.

<i>2. Game Design (15 ECTS)</i>
The module focuses on the application of design research to computer game design as well as the design and development of prototypes.

<i>3. Game Development (15 ECTS)</i>
The module focuses on the development of innovative products expanding media and game technologies, based on a structured and scientific perspective.

#### *Programme Language*

**Section 7.** The MSc Games study programme is conducted in English.

### **Chapter 3**

#### **General Rules and Miscellaneous Regulation**

**Section 8.** Furthermore, please refer to the IT University's rules and regulation, appendix to this curriculum.

### **Chapter 4**

#### **Date of Commencement and Transitional Regulations**

**Section 9.** This curriculum comes into force 1 September 2015 and applies to all students admitted to the programme from autumn 2015.

*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.

Approved by the Board of Studies ITU 12 June 2015.

A handwritten signature in black ink, reading "Mads Tofte". The signature is written in a cursive, slightly slanted style.

Approved by Vice Chancellor Mads Tofte 19 August 2015.