Master's degree programme Human - Machine Communication
Appendices to the Teaching and Examination Regulations
2011-2012

Appendix A Teaching outcomes of the degree programme (art. 1.3)

The degree programme is designed to:
- prepare for participation in the fields of Cognitive Science and Computational Cognitive Neuroscience and their applications, Cognitive Engineering, Language and Speech Technology and Human-Machine Communication, and/or for the profession of system or interface designer
- impart specialized knowledge, skills and insight in the field of Cognitive Science and its applications and Human-Machine Communication at a high national and international academic level
- prepare for conducting academic research in the field of Cognitive Science and its applications to Cognitive Ergonomics and Human-Machine Communication

Appendix B Specializations of the degree programme (art. 2.2)

Students must choose one of the following specializations:
a. specialization Cognitive Engineering
b. specialization Cognitive Language Modeling
c. specialization Cognitive Modeling
d. specialization Computational Cognitive Neuroscience

Appendix C Content of the degree programme (art. 2.3)

1. The **degree programme** consist of the following compulsory modules with a study load of 5 ECTS unless otherwise stated (with their related form of examination):

   - Formal Models of Cognition: assignments, written paper
   - Cognitive Modeling – Basic Principles and Methods: assignments, research assignment, written paper
   - Experimental Design and Analysis of Variance **or** Repeated Measures
   - Research project (15 ECTS): research project
   - Final Research Project (45 ECTS): research project *or*
     Final Research Project (30 ECTS): research project *and* Internship (15 ECTS)

   In individual cases the Board of Examiners may define one other compulsary module (5 EC) from the following fields: programming, cognitive psychology, statistics, linguistics or cognitive neuroscience.

2. The different **specializations** also contain the following compulsory modules with a study load of 5 ECTS (with their related form of examination):

Cognitive Modeling
- Cognitive Modeling – Complex Behaviour: assignments, research assignment, written paper
- User Models: design assignments, written paper
- Computational Cognitive Neuroscience: written report, written exam, oral presentation

Cognitive Engineering
- Cognitive Engineering: design or research assignments, written paper, written exam
- Neuro-ergonomics: written paper
- User Models: design assignments, written paper

Computational Cognitive Neuroscience
- Computational Cognitive Neuroscience: written report, written exam, oral presentation
- Cognitive Modeling – Complex Behaviour: assignments, research assignment, written paper
- Advanced Experimental Skills: exercises, assignment and papers

Cognitive Language Modeling
- Language Modeling: oral presentation, research assignment, written paper
- Computational Discourse: written assignments, computer labs, oral presentation
- Computational Simulations of Language Behaviour

Appendix D Optional modules (art. 2.4)

1. With the approval of the Board of Examiners, a student may choose one or more of the following optional modules with a study load of 5 ECTS, with their related form of examination:

- Advanced Research Skills: research assignment, written paper, written exam
- Arguing Agents: assignment, written exam
- Auditory Biophysics: research assignment, oral presentation
- Capita Selecta Artificial Intelligence and Cognitive Science: oral presentation, written paper
- Cognitive Engineering: design or research assignments, written paper, written exam
- Cognitive Modeling – Complex Behaviour: assignments, research, assignment, written paper
- Cognitive Robotics: computer assignments, written exam, presentation
- Computational Cognitive Neuroscience: written report, written exam, oral presentation
- Computational Discourse: written assignments, computer labs, oral presentation
- Design of Multi-Agent Systems: implementation assignment, oral presentation, written exam
- Dynamic Interactive Belief Revision: written exam
- Handwriting Recognition: implementation assignments, oral presentation, paper
- Language Modeling: oral presentation, research assignment, written paper
- Machine Learning: implementation assignment, written exam
- Multi-Agent Systems: assignments, oral presentation
- Neuro-ergonomics: written paper
- Perception: research assignment, written exam
- Robotics: design assignment, written paper
- Signals and Systems: assignments, written exam
- Sound Recognition: design assignment, implementation assignment, paper
- User Models: design assignments, written paper

2. With the approval of the Board of Examiners, a student may also choose one or more of the following optional modules with a study load of 5 ECTS unless otherwise stated (see Ocasys for form of examination):

- Advanced Experimental Skills
- Advanced Web Technology
- Analytical Methods
- Computational Simulations of Language Behaviour
- Computer-Mediated Communication (10 EC)
- Corpus Analysis
- Dutch Semantics and Language Acquisition (10 EC)
- Embodied Minds
- Experimental Design and Analysis of Variance
- Integration Brain & Behaviour
- Memory and Learning
- Natural Language Processing (10 EC)
- Philosophy of Mind II: Consciousness and Action
- Philosophy of Neuroscience
- Programming in C++ (part 1, 2 and/or part 3: 8 ECTS maximum)
- Repeated Measures
- Scientific Visualization
- Self-organization, Cognition and Social Systems
- Semantic Web Technology (10 EC)
- Skill Acquisition and Training
- Vision and Cognition

Appendix E Entry requirements and compulsory order of examinations
(art. 3.2)

Final Research project: Formal approaches to cognition, Cognitive modeling – basic principles and methods, Experimental design and analysis of variance **or** Repeated Measures, and Research project (15 ECTS), and at least 60 ECTS of the degree programme.

Appendix F Admission to the degree programme
(art. 4.1.1 + art. 4.2)

1. Students in possession of a Dutch or foreign certificate of higher education that indicates that they have the following knowledge and skills shall be admitted to the degree programme:
    -   knowledge of and insight in the subject of Artificial Intelligence
    -   knowledge of and insight in the subject of Cognitive Psychology or Cognitive Science
    -   knowledge of and insight in the subject of Statistics and Research methods
    -   practical skills in Programming

2. The holder of a certificate from the Bachelor's degree programme "Artificial Intelligence" of any university in the Netherlands is expected to have the knowledge and skills listed in Article 4.1.1 and is admitted to the degree programme on that basis.

Appendix G Application deadlines for admission
(art. 4.5)

Deadline of Application	Non-EU students	EU students
Nanoscience	February 1st	February 1st
Behavioural and Cognitive Neurosciences	February 1st	June 1st
Biomolecular Sciences (topprogramme)	February 1st	April 15th
Evolutionary Biology (topprogramme)	February 1st	February 1st
Artificial Intelligence (admission dates for semester 1 and 2)	April 15th and October 15th	June 1st and December 1st
Human-Machine Communication (admission dates for semester 1 and 2)	April 15th and October 15th	June 1st and December 1st
Remaining FMNS Masters	April 15th	June 1st