

# **Intended learning outcomes School of Innovation Sciences**

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**MSc Human-Technology Interaction**

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# MSc Human-Technology Interaction

## Intended learning outcomes MSc Human-Technology Interaction

Following the ACQA competence areas<sup>1</sup>, the intended learning outcomes of the MSc program are specified as follows in terms of knowledge and skills of the graduates:

- 1) Competent in scientific disciplines
  - a. Knowledge of and insight into technological systems and their components in a specialized area of their background engineering domain
  - b. Thorough knowledge and understanding of concepts, theoretical frameworks and methodologies of psychology and the complex human-technology interactions.
  - c. Thorough knowledge of and advanced skills in the techniques of observation, data collection and analysis techniques in the human-technology domain, and an ability to critically reflect on the scope and limitations of these methods
  
- 2) Competent in doing research
  - a. Ability to formulate research problems in terms of concepts and theories of psychology and human-technology interactions
  - b. Ability to independently develop and execute a research plan.
  - c. Ability to contribute independently to the development of scientific knowledge in the area of the human-technology interactions.
  - d. Ability to identify and analyze problems typical for human technology interaction by integrating technological and psychological perspectives.
  - e. Ability to appraise relevant scientific evidence on its usefulness in addressing research problems.
  - f. Consolidate the understanding of the ethics of psychological / user research, and has both the ability and attitude to adhere to these rules.
  
- 3) Competent in designing
  - a. Ability to formulate design problems in terms of concepts and theories of psychology and human-technology interaction.
  - b. Ability to develop and execute a sound plan for formulating design requirements.
  - c. Ability to integrate existing knowledge, or identify gaps therein, on technological requirements for human-technology interactions in the (re-)design of (requirements for) products or systems.
  - d. Ability to integrate the technological and psychological domains, merging knowledge, methods and concepts.
  - e. Ability to make decisions with respect to design requirements where they pertain to the interaction between the user and the system or product, and to justify these decisions in a systematic manner.
  
- 4) A scientific approach
  - a. Ability to document the result of psychological or user requirement research for the development of knowledge within the field and beyond.
  - b. Ability to apply and critically examine existing theories, concepts and models in the human-technology interaction domain in a systematic manner.

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<sup>1</sup> A.W.M. Meijers, C.W.A.M. van Overveld, and J.C. Perrenet, Criteria for Academic Bachelor's and Master's Curricula, 2005.

- c. Ability to look beyond the borders of a specific discipline, to be sensitive to the relative contributions of various disciplines and to understand the knowledge demands of a specific discipline.
- d. Understanding of the practices and principles of science, and knowledge of current debates about this.

5) Basic intellectual skills

- a. A reflective attitude, with an ability to critically and independently reflect on own thinking, decision making, and professional behavior.
- b. A critical mindset and the ability to ask constructive questions regarding complex problems in the field.
- c. Ability to read and write scientific texts and build a solid argumentation.
- d. Ability to think in abstract terms, including the ability to develop formal models of phenomena and processes in the domain.

6) Competent in co-operating and communicating

- a. Capability of reporting and communicating the results of one's learning and decision making –including one's research outcomes –, both verbally and in writing, with academics and engineers in various domain, users, and the general public
- b. Ability to recognize and deal with differences in work practices between scientific disciplines and academics from other cultural backgrounds.
- c. Ability to take a leading role in multi- or interdisciplinary teams of engineers and academics.
- d. Ability to listen, read, talk and write in English on a professional level

7) Takes account of the temporal, technological and social context:

- a. Ability to reflect on the relation between the use of scientific knowledge and technology, the implicated social, normative and ethical issues, and the way in which knowledge and technology development is influenced by its social and historical context, and the ability to integrate such relations and implications in their professional work.
- b. Understanding of the different roles of engineers and related professionals in society, and the ability to determine one's own place as a professional in society.