Människa-robotinteraktion - masterprogram
Human-Robot Interaction - Master’s Programme
120 credits

Programme Code: MRIMA
Academic Level: Advanced level
Version: 2
The Programme Syllabus is valid from: Autumn term 2020
Date of Approval: 14 June 2018

1 Name and Scope of the Study Programme
The programme is provided by the University of Skövde and is named Human-Robot Interaction - Master’s Programme. It comprises 120 credits.

2 General Objectives
Courses and study programmes on the advanced level shall involve the acquisition of specialist knowledge, competence and skills in relation to courses and study programmes on the basic level, and in addition to the requirements for courses and study programmes on the basic level shall:

- further develop the ability of students to integrate and make autonomous use of their knowledge,
- develop the students’ ability to deal with complex phenomena, issues and situations, and
- develop the students’ potential for professional activities that demand considerably autonomy, or for research and development work.

(Objectives for courses and study programmes on the advanced level, The Higher Education Act)

3 Programme Objectives
The main area of education is informatics with a specialisation in human-robot interaction.

Objectives for Master’s Degree according to the Higher Education Ordinance

Knowledge and understanding
For a Degree of Master (120 credits) the student shall

- demonstrate knowledge and understanding in the main field of study, including both broad knowledge of the field and a considerable degree of specialised knowledge in certain areas of the field as well as insight into current research and development work, and
- demonstrate specialised methodological knowledge in the main field of study.

Competence and skills
For a Degree of Master (120 credits) the student shall

- demonstrate the ability to critically and systematically integrate knowledge and analyse, assess and deal with complex phenomena, issues and situations even with limited information,
- demonstrate the ability to identify and formulate issues critically, autonomously and creatively as well as to plan and, using appropriate methods, undertake advanced tasks within predetermined time frames and so contribute to the formation of knowledge as well as the ability to evaluate this work,
- demonstrate the ability in speech and writing both nationally and internationally to clearly report and discuss his or her conclusions and the knowledge and arguments on which they are based in dialogue with different audiences, and
- demonstrate the skills required for participation in research and development work or autonomous employment in some other qualified capacity.
Judgement and approach
For a Degree of Master (120 credits) the student shall

- demonstrate the ability to make assessments in the main field of study informed by relevant disciplinary, social and ethical issues and also to demonstrate awareness of ethical aspects of research and development work,
- demonstrate insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used, and
- demonstrate the ability to identify the personal need for further knowledge and take responsibility for his or her ongoing learning.

Local Objectives for the Study Programme according to the University of Skövde
After completion of the study programme, the student should be able to show

- broad and deep knowledge and understanding of evaluation methods within human-robot interaction, and
- in-depth knowledge and understanding of how human-robot interaction can be utilized to support a sustainable development.

4 Programme Content
The study programme provides the students with opportunities to acquire broad and deep knowledge as well as understanding of different aspects regarding social human-robot interaction and the cooperation between humans and robots from a holistic perspective in an industrial context. The students also acquire skills and considerable in-depth in evaluation methods of different forms of interaction between humans and robots. Later, the acquired knowledge and understanding will be practiced in an individual project in cooperation with an external organization, where the students individually identify a research question and present a proper solution within a relevant sub-area of the research field.

The study programme also enlightens technical leadership as well as theoretical and methodological width and in-depth. The students maintain progression of the state of the art within the field of research by exploring current research and development issues within human-robot interaction and its related industrial applications.

The study programme ends with an individual master degree project where the students considerably deepen their knowledge by identifying and approaching a prevailing and relevant research issue within the area. The researched based master degree project relates to a current or recently finished research project within human-robot interaction and can be performed in cooperation with an external organization.

The study programme comprises the following courses

- Introduction to Human-Robot Interaction - Different Perspectives A1N, 15 credits
- Evaluation Methods in Human-Robot Interaction A1F, 7.5 credits
- Human-Robot Collaboration within the Industry A1F, 7.5 credits
- Industrial Ergonomics A1F, 7.5 credits
- Scientific Methodology and Communication for Informatics A1F, 7.5 credits
- Human-Robot Interaction - External Organisation Project A1F, 15 credits
- Technical Leadership A1N, 7.5 credits
- Scientific Theory in Informatics 7.5 credits (post-graduate level)
- Human-Robot Interaction - Research and Development A1F, 15 credits
- Master Degree Project in Informatics with Specialisation in Human-Robot Interaction A2E, 30 credits

5 Admission Requirements
A Bachelor’s degree (equivalent to a Swedish kandidatexamen) within the fields of Informatics, Interaction Design, Cognitive Science, Automation Engineering, Industrial Engineering or Product Design Engineering (or similar).

A further requirement is proof of skills in English equivalent of studies at upper secondary level in Sweden, known as English course 6/ English course B. This is normally demonstrated by means of an internationally
recognized test, e.g. IELTS, TOEFL or the equivalent.

The above admission requirements apply for admission to the programme. For further studies within the programme, the admission requirements for each course must be complied with. These admission requirements are specified in each separate course syllabus.

6 Degree
Those who complete the programme’s courses with a pass grade also comply with the requirements for Degree of Master of Science (120 credits) with a major in Informatics.

Degrees are awarded after application. Information about how to submit an application can be found on the University’s website.

7 Approval of Study Programme and Programme Syllabus
The study programme was approved by the Vice-Chancellor at the University of Skövde on 4 June 2018. This programme syllabus was approved by the Faculty Board at the University of Skövde on 14 June 2018. It is valid from the autumn semester of 2020.

8 Changes to the Programme Syllabus
The programme studies are carried out in accordance with the current programme syllabus in effect at the time when the studies were initiated, provided that the structure of the programme is followed and that no leave of studies has been granted.

In the event of continued studies after a period of approved leave of studies, the students is to follow the programme syllabus in effect the term that the student resumes his/her studies. If substantial changes to the programme syllabus have been made, the student may contact a student and career counsellor in order to set up an individual study plan.

Reservations are made for the fact that the programme syllabus and its courses are subject to change, within the framework of the objectives of the programme.

9 Additional Information
The teaching is conducted in English.

Further information about the study programme will be available on the University’s web pages prior to a programme start.

National and local regulations for higher education are available on the University’s website.

During the programme, as well as after its completion, there are follow-ups. The main purpose of these follow-ups is to contribute to improvements of the programme. The students’ experiences and views constitute one of the criteria for the follow-up and are gathered by means of programme evaluations. The students will be informed of the results of the follow-up and any decisions regarding actions that are to be taken.