

## **SASH92, Social AI Through the Looking Glass, 7.5 credits** *Social AI Through the Looking Glass, 7,5 högskolepoäng* **First Cycle / Grundnivå**

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### **Details of approval**

The syllabus was approved by The pro-dean for First-Cycle Studies at the Faculties of Humanities and Theology on 2022-01-31 and was last revised by The Pro Dean of First and Second Cycle Studies at The Joint Faculties of Humanities and Theology on 2024-02-18 (U 2024/91). The revised syllabus comes into effect 2024-02-19 and is valid from the autumn semester 2024.

### **General information**

The course is offered as a free-standing course. It can normally be included as part of a first- or second-cycle degree.

*Language of instruction:* English

*Main field of study*                      *Specialisation*

-    G1N, First cycle, has only upper-secondary level entry requirements

### **Learning outcomes**

On completion of the course, students should:

#### **Knowledge and understanding**

- be able to identify and account for some key psychological and philosophical theories on human social cognition, such as: theories of Theory of Mind, Embodied accounts (4E Model), Direct Neuronal Matching Hypotheses; Philosophy of Action; Enactivism;
- be able to identify and explain main theoretical and methodological differences between contrasting approaches in human social cognition, e.g.: representational and inferential vs. embodied and situated approaches;

- be able to explain some key concepts in social robotics with reference to social interactions between robots and humans, such as: i) embodied and situated accounts of human-robots interactions; ii) affective and cognitive sciences for socially interactive robots; iii) learning, adaptation and evolution of social cognition in social robots; iv) context awareness, expectation and intention understanding in social robots; v) interaction and collaboration between robots, humans and environment;
- be able to describe and account for the main different research paradigms and models implemented and applied by research on social robotics and human-robots interaction (HRI), such as: virtual peer agents, embodied autonomous systems, human-robot vocal interfaces, Computers are Social Actors (CASA), and artificial cognition architectures such as deep neural networks;

### **Competence and skills**

- be able to summarise and contrast arguments for and against standard accounts of human social cognition;
- be able to identify best methodologies and analytical frameworks to be applied in different human-robot interactional contexts;
- be able to critically discuss theoretical and methodological approaches to the study of human social cognition.

### **Judgement and approach**

- be able to provide contrasting examples on interactional situations wherein the presence of social robots vs. humans as partners may be considered as necessary, supportive, or hindering;
- be able to envision future interactional scenarios in which robots as social agents can be implemented and tested.

### **Course content**

The course is an introduction to Social Robotics and Human-Robot Interaction (HRI). It aims at drawing engaged reflections and theoretical comparisons between how humans engage in meaningful interactions with other humans and with social robots. Towards this aim, the course will first provide an overview of the standard and contrasting accounts of social cognition and its development, spanning from Theory of Mind, embodied and situated approaches, neural mirroring theories. Mainstream research paradigms to investigate human-robot interactions will be presented, along with an overview of the main cognitive architectures and computing techniques applied in social robotics, such as artificial neural networks and deep networks. Finally, the course will address some psychological and philosophical critical issues related with ethical, social and functional aspects in the HRI field.

### **Course design**

Teaching consists of focused lectures, one seminar and in-class group presentations.

The University is responsible for ensuring that an alternative date or comparable assignment is offered to students who are not able to complete a compulsory component owing to circumstances beyond their control, e.g. accident, sudden illness or similar situation. This also applies to students who miss teaching sessions owing to

activities in an elected position as student representative.

## **Assessment**

Assessment is based on an invigilated written exam PLUS one of these two options: 1) a home-written assignment, or 2) group work with an in-class presentation. Students choose which alternative they wish to do.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

## **Grades**

Grading scale includes the grades: U=Fail, E=Sufficient, D=Satisfactory, C=Good, B=Very Good, A=Excellent

The highest grade is A and the lowest passing grade is E. The grade for a non-passing result is Fail. Both components of the examination receive a grade from A to E. The invigilated exam accounts for 70% of the overall grade and the individual/group assignment accounts for 30%. A passing grade on both components is necessary for a passing grade in the course.

## **Entry requirements**

General requirements for university studies in Sweden

## **Further information**

- The course is given by the Department of Philosophy, University of Lund
- The credits allocated for course content that in whole or in part is commensurate with another course can only be credited once for a degree.
- For further details see the current registration information and other relevant documentation.