



KURSPLAN

Kognitiv psykologi för HCI, 7,5 högskolepoäng

Cognitive Psychology for HCI, 7.5 credits

Kurskod:	TKPR24	Utbildningsnivå:	Avancerad nivå
Fastställd av:	VD 2024-03-01	Utbildningsområde:	Tekniska området
Reviderad av:	Utbildningschef 2024-04-30	Ämnesgrupp:	IF1
Gäller fr.o.m.:	2024-08-01	Fördjupning:	A1N
Version:	2	Huvudområde:	Informatik

Lärandemål

After a successful course, the student shall:

Kunskap och förståelse

- show familiarity with the foundations of cognitive psychology
- display a broad knowledge of evolutionary and social approaches to cognitive psychology
- demonstrate comprehension of the major features of cognitive processes (perception, attention, memory, learning, reasoning, decision-making and problem-solving)

Färdighet och förmåga

- demonstrate the ability to apply cognitive psychology concepts to analyse user interface design, considering effects on user behaviour, attention allocation, and memory retention
- demonstrate the ability to identify the interplay between cognition and emotion in the context of HCI
- demonstrate the ability to explain design choices based on the principles of cognitive psychology

Värderingsförmåga och förhållningssätt

- demonstrate the ability to critically evaluate user interface designs from a cognitive psychology perspective, considering factors such as information processing, attention management, and memory load
- demonstrate the ability to ethically evaluate the implications of interface design on user emotions, decision-making, or well-being

Innehåll

In this intense course, students are provided with a deep understanding of cognitive psychology and its relevance to the field of Human-Computer Interaction (HCI). The course briefly introduces the topics of the historical and philosophical foundations of cognitive psychology and the basics of evolutionary and social approaches in cognitive science. The topics of key cognitive processes, such as perception, attention, memory, learning, reasoning, decision-making, and problem-solving, are discussed in detail. Through lectures, readings, discussions, and practical exercises, students gain the knowledge and skills necessary to apply cognitive psychology

principles to their professional careers and assess the ethical implications that the design might have on individuals and society at large.

The course includes the following elements:

1. Historical and philosophical foundations of cognitive psychology (including topics of monism, dualism, knowledge acquisition, and consciousness)
2. Key figures and theories in cognitive psychology (including voluntarism, structuralism, functionalism, Gestalt psychology, psychoanalytic approach, and behaviourism)
3. Cognitive processes:
 - a. Perception and object recognition (including visual and auditory perception, multimodal perceptions, and object recognition)
 - b. Memory and attention (including models of memory and models of attention)
 - c. Reasoning, decision-making, and problem-solving (including but not limited to inductive and deductive reasoning, dual system approach to thinking, problem representation, experts vs. novices, and creative problem-solving)
4. Evolutionary and social approaches in cognitive psychology (including but not limited to evolution and cognitive processes, behavioural economics, attitudes, cognitive dissonance, impressions, stereotyping and prejudice)
5. Language and HCI (including but not limited to language acquisition and grammar)
6. Emotion and ethical considerations (including topics such as how emotion and moods affect cognitive processing, emotional design principles, affective computing, promotion of emotional well-being and reduction of negative effects of design)

Undervisningsformer

Lectures and seminars.

Undervisningen bedrivs på engelska.

Förkunskapskrav

The applicant must hold the minimum of a bachelor's degree (i.e., the equivalent of 180 ECTS credits at an accredited university) with at least 90 credits in Informatics, Computer Engineering, Computer Science, or equivalent. Proof of English proficiency is required.

Examination och betyg

Kursen bedöms med betygen 5, 4, 3 eller Underkänd.

Poängregistrering av examinationen för kursen sker enligt följande system:

Examinationsmoment	Omfattning	Betyg
Inlämningsuppgift ¹	5 hp	5/4/3/U
Seminarium	2,5 hp	U/G

¹ Bestämmer kursens slutbetyg vilket utfärdas först när samtliga moment godkända.

Kurslitteratur

The literature list for the course will be provided eight weeks before the course starts.

E. Bruce Goldstein/Johanna C. van Hooff

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In addition to that there will also be articles handed out during the course.