Reg No: DVAE25/20232

Faculty of Health, Science and Technology
Computer Science

Syllabus

Usable Security and Privacy

Course Code:	DVAE25
Course Title:	Usable Security and Privacy *Användbar säkerhet och integritet*
Credits:	7.5
Degree Level:	Master's level
Progressive Specialisation:	Second cycle, has second-cycle course/s as entry requirements (A1F)

Major Field of Study:
DVA (Computer Science)

Course Approval
The syllabus was approved by the Faculty of Health, Science and Technology 2023-02-23, and is valid from the Autumn semester 2023 at Karlstad University.

Prerequisites
Internet security and privacy (7.5 ECTS credits), plus upper secondary level English 6, or equivalent

Learning Outcomes
The aim of the course is to prepare students for writing a thesis or dissertation in the field.

Upon completion of the course, students should be able to:
- explain the principles of usability and methods for designing usable security and privacy for IT systems,
- explain challenges of and methods for communicating information related to security and privacy,
- explain challenges of and methods for designing technology for security and privacy,
- explain challenges of and methods for usable configuration of technology for security and

privacy,
- explain and apply basic concepts and methods for Human Computer Interaction (HCI) and human-centred design in the area of security and privacy,
- critically compare the strengths and weaknesses of different usable security and privacy solutions,
- communicate practical usability work and results both orally and in writing, and
- discuss current scientific literature in the area and impart knowledge of it orally.

Content
The course introduces the area of usable privacy and security, including research-related literature in the area. The course consists of lectures and seminars which include presentations by students followed by discussions. In the first part, there are short introductory lectures on legal principles for data protection and PETs (Privacy Enhancing Technologies); HCI principles, concepts, and methods; and an overview of the area usable privacy and security.

Students specialise in selected topics related to usable privacy and security, for instance tools and methods for usable monitoring and control (including communication of privacy policy), mental models for technology used for protecting privacy and security, usable configurations of technology for privacy protection and security controls (for instance systems for secret sharing, access control, and firewall rules), usable privacy and security alerts, user-centred privacy and security by design and privacy protection by default, usability of authentication and identity management, including the handling of authentication data, HCI patterns, and dark patterns (also basic decision-making models), and education in cyber security awareness.

The course also includes a practical assignment to collect user requirements, develop prototypes of user interfaces, or carry out usability assessments of privacy or security solutions.

Reading List
See separate document.

Examination
Assessment is based on
- an individual written exam,
- individual seminar presentations on selected topics based on scientific articles,
- an individual written report, and
- an individual oral presentation.

If students have a decision from Karlstad University entitling them to Targeted Study Support due to a documented disability, the examiner has the right to give such students an adapted examination or to examine them in a different manner.

Grades
One of the grades 5 (Pass with Distinction), 4 (Pass with Some Distinction), 3 (Pass), or U (Fail) is awarded in the examination of the course.

Quality Assurance
Follow-up relating to learning conditions and goal-fulfilment takes place both during and

upon completion of the course in order to ensure continuous improvement. Course evaluation is partly based on student views and experiences obtained in accordance with current regulations and partly on other data and documentation. Students will be informed of the result of the evaluation and of any measures to be taken.

Course Certificate
A course certificate will be provided upon request.

Additional information
The local regulations for studies at the Bachelor and Master levels at Karlstad University stipulate the obligations and rights of students and staff.