



## Master's Programme in Information Science: Digital Environments

### Masterprogram i informationsvetenskap: digitala miljöer

120 credits

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**Ladok Code:** MAIDI

**Version:** 2.0

**Level:** Second cycle

**Approved by:** Committee for Education in Librarianship, Information, and IT 2023-08-31

**Valid from:** Autumn 2023

**Valid for:** Admitted autumn 2024

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### General Objectives

Second level education shall essentially build on the knowledge that students acquire in first level education or corresponding knowledge. Second level education shall involve a deepening of knowledge, skills and abilities relative to first level education and, in addition to what applies to first level education, shall

- further develop the students' ability to independently integrate and use knowledge,
- develop the students' ability to deal with complex phenomena, issues and situations, and
- develop the students' potential for professional activities that demand considerable independence or for research and development work.

(The Higher Education Act, Chapter 1, Section 9)

### Objectives

For the master's degree, the student must demonstrate such knowledge and ability in the main area of information science as is required to work independently with information in digital environments, with a focus on methods for critical perspectives on digital information. The student must be well acquainted with the concepts, theories, methods and applications of information science. The student must also have the ability to critically analyze, assess and handle complex phenomena, ethical issues and situations that include the collection, use, analysis and evaluation of digital information. Furthermore, the student must have the ability to create, synthesize and report scientific results in an academic form. After completing the education, the student must also be able to take responsibility for their own competence development by having developed knowledge of relevant sources of information and insights that support a critical approach.

After completing the education, the student will

#### *Knowledge and understanding*

- 1.1 demonstrate broad as well as significantly in-depth knowledge in information science. This includes central themes and concepts such as data, information, modality, data structures, digitization and digital information practices, related to individuals, organizations and society at large
- 1.2 show in-depth insight into theories and methods in information science with a special focus on digital information
- 1.3 demonstrate an understanding of how theories and methods in information science relate to political, technical and economic conditions.

#### *Competence and skills*

- 2.1 demonstrate the ability to critically and systematically integrate knowledge in information science
- 2.2 demonstrate the ability to critically, independently and creatively identify and formulate research questions in information science, to plan and with adequate methods carry out qualified tasks within given time frames and thereby contribute to the development of knowledge and to evaluate this work
- 2.3 demonstrate the ability to clearly present and discuss methods and critical perspectives on digital information, orally and in writing, in both national and international contexts
- 2.4 have acquired such a skill as is required to participate and work independently in research and development work in information science
- 2.5 demonstrate the ability to analyze, assess and handle complex phenomena, issues and situations that include the collection,

use, analysis and evaluation of digital information

### *Judgement and approach*

3.1 demonstrate awareness of ethical aspects of research and development work in information science

3.2 demonstrate the ability to make assessments in information science with regard to relevant societal and ethical aspects such as legal dilemmas, sustainability issues and political dimensions of digital information in national and international contexts

## **Content**

The master's program is based on bachelor's programs in library and information science and information architecture. It constitutes an in-depth study of the main area of information science through the choice of literature, more complex and analytical study assignments, and cutting-edge competencies in information science with a focus on information in digital environments. The program consists of compulsory courses. Third semester courses are also given as independent courses, open to active librarians and web editors as well as others with relevant knowledge requirements. The program's semesters are themed to create a clear progression. The first semester deals with basic theories, research methods, concepts and scientific literature in information science. During the second semester, these scientific competencies are concretized through courses where students learn to handle digital data from image and text and to use and evaluate data structures that convert data into information. In the third semester, this concrete knowledge from semester 2 is put into a larger context, from the individual user to the significance of digitalization for organizations and for a democratic society. During the first semester, students are trained in theory and methods through the course Research Methods (15 credits). The courses Introduction to Information Science and Research Methods form prerequisite knowledge for the thesis course (wholly or in part). Sustainable development, including Agenda 2030, equal conditions and global and intercultural issues – areas that are linked to the university's goals – are themes that are integrated throughout the education through the educational goal 3.2. These themes are addressed to some degree in all courses, most often in the form of discussions of ethical dilemmas.

## **Semester 1**

### *Introduction to information science (7,5 credits) (AIN)*

The purpose of the course is to introduce theories, central concepts, methodologies and approaches of information science, and relate them to the students' earlier knowledge. The course uses digitization as an overarching theme to discuss concepts such as information, forms of information, documents, content representation, knowledge organization, information behavior and information seeking and searching. A partial focus in the course is how digital information can be represented and made available, but also classical theories and approaches in information science are presented.

### *Datalogical thinking (7,5 credits) (AIN)*

The purpose of this course is to introduce the students to the basic concepts of data and computing in the context of information science, so that they learn how the digital world functions and gain a better understanding of data structures, algorithms, and their ethical implications. The course provides a layered approach that introduces students to foundational concepts in information science, such as data formats, data types, and data structures, and how data is stored and accessed on a computer in a binary format. The course also deals with critical issues related to the development and use of digital tools to create awareness of their broader ethical implications.

### *Research methods (15 credits) (AIN)*

The course discusses central concepts and issues of philosophy of science as well as provides an overview of the predominant methodological traditions of information science. It is based on key information science issues and explains how different research issues require specific methodological approaches. The course provides an overview of the dominant methodological traditions in information science. The focus in this regard is on basic methodological theories and principles rather than on practical implementations of specific research methods. In addition, the course presents and discusses principles and applications of ethics in research.

## **Semester 2**

### *Multimodality: Narrative and context in different media formats (15 credits) (AIF)*

The purpose of the course is to introduce the student to skills and perspectives that facilitate an analysis of digital objects in various media formats and digital contexts and collections. The course will cover textual, image-based, audio, and audiovisual materials. The course also deals with the ability to choose, use and critically reflect on the benefits of different information tools. Important theoretical concepts covered in the course are multimodality, digitization, metadata, and medial transformation.

### *Open Data as an arena for information making – issues and opportunities (15 credits) (AIF)*

The purpose of this course is to train students in working with open data as a source and resource, as well as to link data for the development of coherent dynamic information sources. Particular focus will be placed on understanding information in its context. The course will also touch upon ethical and legal issues regarding personal data, copyright and backdoor identification of sensitive data and aspects of synchronization of registers.

## **Semester 3**

### *Critical perspectives on the datafied society (7,5 credits) (A1N)*

The purpose of the course is to discuss emerging critical issues within information science pertaining to the transformation of media and technology in society, generally defined as the datafied society. During recent decades all forms of information media or technology have been revolutionized. This course covers emerging critical issues given this transformation. The course's focus is the societal level where issues such as old vs. new media, Big data, platformization and social media, Internet and bias are of relevance. The course integrates cultural policy, as well as information policy, perspectives.

### *Data strategies for organizations (15 credits) (A1N)*

The purpose of the course is to deepen the student's knowledge about theories, research and practice linked to data so that they are able to evaluate and immerse themselves in the relevance of these areas for information management and development. The course emphasizes giving students both critical perspectives on data and information resources in general, as well as competencies for the development of sustainable data strategies for new and complementary values, services and products in various organizational and institutional contexts.

### *Data, participation and agency (7,5 credits) (A1N)*

The course relates to concepts about the computerized society and datafication, and emphasizes the increasing complexity and diversity of actors and relationships involved in data production, analysis and use. Throughout the course, related ideas about power, agents and empowerment are examined and problematized, but the course emphasizes why and how questions about data power and agents are and should be central to computer practices, system design and user studies.

## **Semester 4**

### *Master thesis course (30 credits) (A2E)*

In the thesis course an independent, scientific in-depth study, based on theories within information science, is carried out by the student. The thesis work includes work with research design, formulation of research problem, research ethics, applied research methods, i.e. data sampling, data collection, and data analysis.

## **Admission Requirements**

Bachelor's degree in information science 180 credits, and proficiency in English equivalent to Swedish upper secondary course English 6.

## **Degree**

After completing the education corresponding to the requirements in this education plan, the student can, upon application to the university, receive the following degree: Master of Science with a major in Information Science

The diploma is bilingual (Swedish/English). The Diploma Supplement (English) accompanies the diploma. Degree certificates are issued upon application on a special form. More information is available on the university's website.

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## **Student Influence and Evaluation**

The education is evaluated by the students continuously, partly through evaluation of courses by the students and teachers, partly through a team of teachers, students and professionals who follow and evaluate the quality of the program. Students are also offered an opportunity to evaluate the entire program at the end of the last semester. The result is reported to students, as well as to the department and university personnel. Students have the right to be represented in the academy's preparatory and decision-making bodies.

## **Miscellaneous**

Students register for program courses in accordance with the current guidelines for program registration at the Swedish School of Library and Information Science, event no. 228-18.

The pace of study is full-time. The mode of learning is mainly remote learning. The program is aimed at students both nationally and internationally.

Courses included in the master's program can be given in collaboration with other departments and universities, nationally and internationally.

The degree provides possibility to enter research education in Library and Information Science or an equivalent research education program after individual testing.

Teaching is conducted in English.

This syllabus is a translation from the Swedish written original.

The language of instruction is English.