

PhD in Digitalisation and Society

Study Plan for PhD in Digitalisation and Society (2023–2026)

Facts about the program

ECTS Credits:

180

Study duration:

3 years

Teaching language:

English

Campus:

Fredrikstad and/or Halden

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Study information

The PhD programme has a nominal length of three (3) years of full-time study including the required coursework.

The PhD programme Digitalisation and Society provides a solid interdisciplinary research environment where PhD candidates can examine, evaluate and develop in-depth research on the interplay between digitalisation and society.

Digitalisation is complex and has become pivotal to our society. It involves how digital innovations influence societal development, but also how society increasingly demands better and more efficient tools for solving new tasks.

The interplay between society and digital technologies is present in all aspects of society. Continuous and accelerating processes of digitalisation urge critical discussions and analyses of the opportunities, challenges and limitations brought on by digital transformations. It is for example important and necessary to critically analyse and produce further innovations within areas such as education, health, work and computing. Contributions to knowledge made by these disciplinary fields will affect how new technologies are developed, and thereby empower technological change.

Digitalisation can be described using different concepts. Devices and Artefacts represent concrete digital technologies and materialised digital objects, whereas activities and practices represent the interaction with, and the use of these digital technologies. The organisational and social arrangements where digital technologies are used can be understood as the overarching contexts of digitalisation. These concepts are interrelated, and PhD projects may therefore aim at incorporating several of these perspectives, preferably within user and practice-centred approaches. Examples of PhD projects where such perspectives may be utilised are studies of the digital tools themselves, the practices and activities in which digital technologies are applied and /or the overarching organisational or societal arrangements in which digitalisation takes place.

Research on digitalisation and society is crucial for the sustainable development of our society. This programme aims to produce highly qualified candidates that can pursue further careers in knowledge-intensive organisations, both nationally and internationally.

The courses included in this PhD programme along with individual supervision will collectively provide candidates with the theoretical and methodological frameworks required to conduct independent research at the forefront of their academic field in accordance with recognised scientific and ethical standards.

Finally, explorations of digitalisation and society are inherently interdisciplinary as societal processes of digitalisation reach across traditional disciplinary boundaries and contexts. The PhD programme's interdisciplinary approach is ensured by grounding the programme in a broad academic environment representing three different faculties at Østfold University College (ØUC), the Faculty of Teacher Education and Languages, the Faculty of Health, Welfare and Organisation and the Faculty of Computer Science, Engineering and Economics. These faculties constitute the overarching research area of priority The Digital Society at ØUC.

What do you learn?

Degree/title obtained

Candidates who complete the programme are awarded a degree of Philosophiae Doctor (PhD).

Learning outcomes

Knowledge

The candidate

- is in the forefront of knowledge within his/her field of study in research on digitalisation and society, and related scientific theories and methods
- can assess the appropriateness and utilisation of different methods and processes in research and innovation relevant to their field of study within education, health, computing and/or work
- can contribute to the development of new knowledge, theories and methods within digitalisation and society

Skills

The candidate

- can develop and formulate research questions and is able to design and conduct research that explores critical issues relevant to digitalisation and society

- can conduct research at an advanced international level that extends and redefines knowledge about digitalisation and society
- can handle complex academic issues and identify knowledge gaps within their field of study in education, health, computing and/or work
- can challenge established theories and approaches in digitalisation and society

General competence

The candidate

- can identify and discuss relevant ethical issues and conduct research with high academic and professional integrity
- can manage complex interdisciplinary research tasks and projects concerning the interplay between digitalisation and society
- can convey and disseminate research results and innovation activities through national and international fora
- can participate in national and international academic and public discussions and debates within their field of study in education, health, computing and/or work
- can identify, initiate and pursue development processes related to their research

Admission

Admission to the PhD programme normally requires a master's degree of 120 credits with a grade B or better awarded for the master's thesis, based on the Norwegian standard grading scale.

Admission will be based on an overall assessment with emphasis on

- the project proposal's quality and relevance to the scope of the PhD programme
- the quality and relevance of the candidate's previous academic achievements

The predefined application form is downloadable from our webpages and must be submitted with the required, formal documentation stated therein, including a PhD research proposal, a plan for the coursework and proof of funding.

Applications will be considered by the PhD Programme Committee on a continuous basis throughout the year. Admission must be approved by the Institutional PhD Board. A revised project description is submitted to the PhD coordinator three months after admission.

Structure and content

The structure and content of the programme

The normative length of the PhD programme is three years full-time study, with approximately 1500 to 1800 working hours annually.

The programme consists of a coursework component of 30 ECTS credits and an independent research training component of 150 ECTS credits, which culminate in a doctoral thesis for the degree of Philosophiae Doctor (PhD).

Coursework

The coursework component of 30 ECTS credits includes compulsory course attendance and coursework submission and is made up of a combination of compulsory and elective courses. Students may apply for the inclusion of ECTS credits from courses offered by other institutions in the coursework component, and thereby pursue opportunities to further specialise in topic areas or methods relevant for their specific PhD projects. Other training elements such as conference presentations or scientific courses may provide ECTS credits to the coursework component upon the programme committee's approval and adherence to the programme regulations.

The coursework component must be completed and approved before the thesis can be submitted for assessment.

Compulsory courses

Students are required to attend three compulsory courses providing a total of 15 ECTS, which are aimed at giving students a solid foundation for further research training within the context of this PhD programme.

The compulsory course Digitalisation and Society will provide a common ground for all students to understand how digitalisation develops, shapes and is shaped by society in different settings and contexts. Basic knowledge about different enabling technologies is emphasised, and applied examples from different disciplines are given. The students will also have the opportunity to focus on the digital technologies relevant for their individual PhD project, which altogether will provide both a broad overview and in-depth understanding of the processes of digitalisation in society.

The compulsory course Philosophy of Science and Research Ethics will provide the students with skills and knowledge in order to position their research projects within a wider theoretical and ethical context. Discussions of different understandings of what research is and may be, ethical reflections, as well as practical applications of legislation and guidelines in research are included. Emphasis will be placed on discussions related to digital technologies and society in various contexts.

The compulsory course Research Methods: Methodology Matters encourages the students to reflect upon the choice of methods in their own research project, as well as provide training in critically evaluating the research methods used by others. The shape that a method takes is the result of methodological, theoretical, and ethical considerations. Therefore, the students will be exploring the traditional division of methodologies and their associated methods into broad categories of quantitative, qualitative, mixed and multiple methods research.

Elective courses – 15 ECTS credits

Students are required to attend elective courses totalling 15 ECTS credits. Student may choose from the elective courses offered in this PhD programme, as listed in the table below and described in further detail in the course descriptions, or choose courses offered from other institutions.

The portfolio of elective courses offered in this PhD programme is designed to provide students with in-depth knowledge within their own field of specialisation, as well as the opportunity to gain insight into other relevant topics and contexts related to digitalisation and society. All the elective courses take an interdisciplinary approach and are as such aimed at a broad community of students.

The Thesis

The Thesis is the central part of the PhD programme and represents an independent research project carried out under individual academic supervision. The independent research work consists of designing, carrying out and writing up an original research study addressing existing knowledge gaps within digitalisation and society, and should be executed to a high international standard.

The Thesis is usually composed of a summary of the scientific work, as well as the scientific articles published or submitted to peer-reviewed scientific journals. The summary should include an introduction to the research field, the research questions and goals, an explanation of the selection and use of methods, a summary of the results and a discussion that positions the work within the state-of-the-art research field. The scientific work comprising the thesis must be placed into one context in the thesis summary.

Programme courses

The individual course descriptions provide further information.

Teaching, learning methods and forms of assessment

Teaching and learning methods

Different forms of teaching are provided within this programme such as lectures, seminars, group discussions and one-to-one supervision. In the compulsory and elective courses teaching is often based on a combination of lectures, seminars, discussions and practical work in smaller groups. Students will normally give oral presentations and/or write essays or papers. Learning outcomes will be achieved by participating in the teaching activities, writing and presenting individual work and self-studies.

The students will also attend national and international research workshops and conferences. PhD students admitted to this programme are included in the institutional PhD Forum, which is organised by PhD students themselves. This forum will host activities where matters related

to the PhD students research, training and work environment is discussed and will enable students to share their research and experiences, as well as acquire knowledge, through presentations and discussions with their peers.

PhD students may also be invited to present their work in the context of faculty seminars and research group discussions.

Workload

Courses that provide 5 ECTS credits have a workload of approximately 130 hours. This includes preparation, self-study, learning activities as well as coursework requirements and exams. The total workload for the study programme is estimated to approximately 1500 to 1800 hours annually.

Supervision

The PhD students are entitled to a minimum of 210 hours supervision during the study period. This includes the supervisors' preparation.

Supervision is designed to allow students to develop skills in conducting independent research work, academic writing and ensure progression in the research process and the writing of the thesis. Supervision also includes guidance on defining the scope and delimitations of the project, formulating hypotheses and research questions, choosing and developing methods and analysing results.

Supervisors are responsible for ensuring that the project is carried out with high scientific integrity in accordance with established ethical norms, and that students are given appropriate training and guidance accordingly.

Normally two supervisors are assigned to each PhD candidate, one defined as the main supervisor and the other as the co-supervisor. The main supervisor should preferably be employed at Østfold University College in a permanent position and have the primary academic responsibility for the candidate. If the main supervisor is not employed at ØUC, the co-supervisor must be employed at ØUC. Supervisors employed at ØUC are responsible for including the PhD candidate in an active research environment at the institution.

Requirements for supervisors, supervision obligations and rights are regulated by and further described in the PhD Regulations.

Assessment and exams

Assessments related to the coursework component are conducted in accordance with the regulations governing Examinations, Admission to Study and Degrees at Østfold University College.

Various forms of assessment are used and these are described in the specific course descriptions. All courses in the programme are graded pass/fail.

Annual progress reports

The PhD student and their main supervisor must submit an annual report detailing progress on the coursework and the research project. The annual progress reports will be assessed within a given time frame after submission and follow-up procedures are initiated if needed according to Østfold University College's Quality Assurance System.

According to the regulations for research degrees at Østfold University College, failure to submit a report or reporting deemed unsatisfactory may result in the termination of the PhD agreement before the appointment period expires.

Midterm evaluation

Approximately halfway through the PhD programme, a midterm evaluation will take place. The midterm evaluation is compulsory for all candidates.

The purpose of the midterm evaluation is to assess the progress and scientific quality of the work done so far, and to provide feedback and advice which can aid candidates in successfully completing their PhD projects.

The evaluation is conducted by a panel of at least two experts appointed by the Programme Committee. Discussions are to be made with both the candidate and the supervisor(s). The candidate provides a presentation of the research and coursework achieved thus far, as well as a condensed plan and timeline for further work.

Completion of the PhD studies

The coursework component of the PhD programme must be approved by the Programme Committee before the candidate can apply for assessment of the thesis. Assessment is carried out in accordance with the regulations for the PhD programme.

The thesis assessment report should be completed within three months of the submission of the thesis, and the public defence should take place within two months after completion of the thesis assessment report.

The PhD in Digitalisation and Society is awarded based on:

- a successful coursework component
- an approved thesis
- a trial lecture on a specified and given topic
- an approved public defence of the thesis

The diploma will specify the title of the thesis and contain information about the coursework conducted as part of the training components.

Internationalisation

All courses are offered in English and are open to PhD students from other countries.

The research environment responsible for this programme has extensive international experience and collaborations within the areas of research represented in the programme. Furthermore, international researchers are invited to Østfold University College on a regular basis to give lectures and discuss current research in areas that are relevant for the PhD students.

In order to attain an international academic level, it is crucial that PhD students are exposed to and take part in international research communities. PhD students are therefore encouraged to visit a research environment abroad during their doctoral study. International PhD students are also encouraged to visit Østfold University College.

Programme evaluation

In order to offer relevant PhD teaching of high quality, we are reliant on feedback from candidates who have attended the programme.

Each individual academic environment is responsible for adopting appropriate evaluation methods and procedures at course level, as stated in Østfold University College's Quality Assurance System.

In addition to course evaluations, Østfold University College conduct periodic evaluations of the PhD programme, as a whole.

Reading list

See the individual course description.

Studies abroad

Prior to undertaking a PhD student exchange, an individual agreement must be made between the two institutions to ensure that the student will participate in an active research community at the host institution, and that they are provided with the necessary infrastructure to do so.

In order to ensure such opportunities, Østfold University College have established collaborations with international academic partners, with relevant research initiatives, where PhD student exchange is encouraged.

Students are expected to present their research at an international scientific meeting, workshop and/or conference at least once during their time as research students.

Work and future studies

Upon successful completion of the PhD programme candidates will qualify for employment that requires highly trained personnel with the competence to assess, initiate and develop projects relevant for digitalisation and society within their field of study. This includes research activities in academia, but also positions in public, private and civil society organisations that require advanced research competence.

Within the public sector candidates can for example pursue career opportunities and leading positions within health and social care, education and administration. Furthermore, the doctoral degree is suited to positions involving applied computer science, in private companies and civil society organisations both nationally and internationally, either as consultants or in relation to development work.

The study plan is approved and revised

The study plan is approved

Approved by The Norwegian Agency for Quality Assurance in Education (NOKUT) December 12th 2022. The programme description was last approved by the PhD Programme Committee, May 23 2023.

The study plan applies to

The programme description applies to the period 2023-2026.

Programme Coordinator

Faculty of Computer Science, Engineering and Economics.

The PhD Programme Committee

Study model

Autumn 2023

Core courses

PHDDS90123 Digitalisation and Society	5 stp
PHDDS90223 Philosophy of Science and Research Ethics	5 stp
PHDDS95023 / Part 1 of 6 PhD Thesis in Digitalisation and Society	

Spring 2024

Core courses

PHDDS90323 Research Methods: Methodology Matters	5 stp
PHDDS95023 / Part 2 of 6 PhD Thesis in Digitalisation and Society	

Elective courses spring 2024

PHDDS91423 / Valgbart emne Education in the Digital Society	5 stp
PHDDS91523 / Valgbart emne Health, Quality of Life and Digitalisation	5 stp
PHDDS91623 / Valgbart emne Work in the Digital Age	5 stp
PHDDS91823 / Valgbart emne Artificial Intelligence – Hypes and Hopes	5 stp

Autumn 2024

Core courses

PHDDS95023 / Part 3 of 6 PhD Thesis in Digitalisation and Society	
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Elective courses autumn 2024

PHDDS92023 / Valgbart emne
Open and Credible Science

5 stp

Spring 2025

Core courses

PHDDS95023 / Part 4 of 6
PhD Thesis in Digitalisation and Society

Elective courses spring 2025

PHDDS91423 / Valgbart emne
Education in the Digital Society

5 stp

PHDDS91523 / Valgbart emne
Health, Quality of Life and Digitalisation

5 stp

PHDDS91623 / Valgbart emne
Work in the Digital Age

5 stp

PHDDS91923 / Valgbart emne
Co-designing IT for Cooperation

5 stp

Autumn 2025

Core courses

PHDDS95023 / Part 5 of 6
PhD Thesis in Digitalisation and Society

Elective courses autumn 2025

PHDDS91823 / Valgbart emne
Artificial Intelligence – Hypes and Hopes

5 stp

Spring 2026

Core courses

PHDDS95023 / Part 6 of 6
PhD Thesis in Digitalisation and Society

150 stp

Elective courses

PHDDS91423 / Valgbart emne
Education in the Digital Society

5 stp

PHDDS91523 / Valgbart emne
Health, Quality of Life and Digitalisation

5 stp

PHDDS91623 / Valgbart emne
Work in the Digital Age

5 stp

PHDDS91923 / Valgbart emne
Co-designing IT for Cooperation

5 stp

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PHDDS90123 Digitalisation and Society (Autumn 2023)

Facts about the course

ECTS Credits:

5

Responsible department:

**Faculty of Computer Science,
Engineering and Economics**

Campus:

Halden and/or Fredrikstad

Course Leaders:

- **Øystein Haugen**
- **Henrik Sætra**

Teaching language:

English

Duration:

½ year

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The course is connected to the following study programs

Compulsory course in the PhD programme Digitalisation and Society.

PhD candidates from other institutions are welcome to apply, but students from this PhD programme will be prioritised.

Lecture Semester

1st, 3rd or 5th semester (autumn)

The student's learning outcomes after completing the course

Knowledge

The student has

- advanced knowledge of key social theories used to describe the interplay between technology and society
- broad knowledge of enabling technologies and in-depth insight into how these are applied within different application domains such as health, education and work
- an advanced understanding of how and why information technology is at the core of the digital society
- advanced knowledge of the key ethical dilemmas raised by new technologies
- in-depth knowledge of digital technology applied in his/her own field of study
- knowledge regarding influential legislation, regulation and informal frameworks related to the social control of technology

Skills

The student can

- analyze and discuss technological change from a broad range of perspectives
- reflect on the use of information technology within their own domain of expertise
- communicate and discuss their knowledge of the interplay between technology and society

General competence

The student

- can identify and critically evaluate key technologies of the digital society from different perspectives
- use knowledge of technology and social theory in order to contribute to innovation and development processes
- will have a foundation for doing scientific research on applications of state-of-the-art technology within their own research area

Content

Modern societies are increasingly referred to as the digital society. This course provides an introduction to the key digital technologies and the interplay between technology and society. Understanding this interplay requires an understanding of technologies' impacts on political structures, progress towards the sustainable development goals, and also the effects on social structures, groups, and individuals. Equally important, however, is fostering an understanding of how society shapes technology, through everything from everyday practices to formal regulation. Attending this course, the students will learn both what the term (digital society) entails, and they will gain the technological insight combined with the key theories and perspectives needed to understand and assess the societal impacts of technological development and how new technologies are developed and regulated.

The students are first introduced to the basics of enabling technologies and concepts used to describe the digital society, including for example artificial intelligence and machine learning, and modern robotics, and industry 4.0, naming just some of the technologies the students will explore. Through a variety of case studies focusing on the application of new technologies in a variety of settings, the students will learn about the positive potential of these technologies, but also their limitations.

The course is highly interdisciplinary, and cases are chosen from the domains of business, politics, education, and the healthcare sector. As the students develop an understanding of the nature and capacity of digital technologies, various ethical challenges related to each case is highlighted through theories about individuals, groups, society, and the environment. The sustainable development goals and human rights constitute the core framework for categorizing the potential positive and negative impacts of digital technologies.

Through an improved understanding of the nature of digital technologies, the students' abilities to analyse and contribute to positive technological impacts will improve. At the same time, they will be challenged on their understanding of, and learn about, the ethics of technology. Psychological, sociological, and political theories are all introduced in order to show how individuals, groups, and societies are affected by technological change, and how these theories are characterised by interlinkages, as effects on political systems impacts individuals, and changes social relations impacts both individuals at a micro level and the society at a macro level. Simultaneously, the student will learn about the potential for social and political control of technology, including practical concerns related to the involvement of various stakeholders in the co-creation and co-development of technological solutions.

Finally, presentations of ongoing research projects at Østfold University College will be used to scrutinize how technology raises and relates to questions of ethics, politics and policy, both at the individual, organisational, national and international level. By this the students will be introduced to current debates about the various consequences related to the use and regulation of technology throughout the course.

As the students finish this course, they will have the required breadth of knowledge to understand both what the digital in the digital society really entails, and not least how the digital impacts society at all levels and how society shapes the digital.

Forms of teaching and learning

Lectures, seminars and individual presentations, peer review of fellow student's paper, and discussions.

The duration of the course is six days, distributed over two or more sessions.

Workload

The workload is estimated to 130 hours.

Coursework requirements - conditions for taking the exam

- A minimum of 80% coursework attendance is required.

Examination

The individual assessment of each candidate is based on two parts:

1. An individual oral presentation where the candidate presents a topic related to the core content of the course for the group. Duration approximately 30 min. This topic which will be the basis for the essay/artikle in 2.
2. An individual essay/article of approximately 3000 words about digital technologies and their applications related to the candidate's own PhD project.

Grading scale: Pass/Fail

Examiners

One internal and one external examiner

Conditions for resit/rescheduled exams

Same requirements as the main exam.

Course evaluation

Feedback from our students is vital in order to develop and offer high quality courses. The course is evaluated using an oral evaluation conducted at the end of the course.

Literature

The [current reading list for 2023 Autumn](#) can be found in Leganto

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PHDDS90223 Philosophy of Science and Research Ethics (Autumn 2023)

Facts about the course

ECTS Credits:
5

Responsible department:
**Faculty of Computer Science,
Engineering and Economics**

Campus:
Halden and/or Fredrikstad

Course Leaders:
• **Geir Afdal**
• **Fredrik Andersen**

Teaching language:
English

Duration:
½ year

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The course is connected to the following study programs

Compulsory course in the PhD programme Digitalisation and Society.

PhD students from other institution are welcome to apply, but students from this PhD programme will be prioritised.

Recommended requirements

Students with limited knowledge of the philosophy of science and research ethics are recommended to get acquainted with the field before the course.

Recommended reading:

Cartwright, N. and E. Montuschi (eds) (2015). *Philosophy of social science: A new introduction*. Oxford: Oxford UP.

Coeckelbergh, M. (2020). *Introduction to philosophy of technology*. Oxford: Oxford UP

Lecture Semester

1st, 3rd or 5th semester (autumn)

The student's learning outcomes after completing the course

Knowledge

The student has

- in-depth knowledge about the criteria for scientific knowledge and its origin
- in-depth knowledge of historical and current issues relating to various epistemological traditions and the knowledge base in different scientific theories
- profound knowledge about a variety of conceptualisations of digital technology and society and the relationship between them
- profound understanding of the importance of possessing knowledge about general research ethics and the possibilities and limitations of different theories of science

Skills

The student is able to

- reflect critically, both on a methodological and scientific theoretical level and employ theoretical scientific strategies in their own research work from an epistemological perspective
- compile and problematize research work in the field and undertake in-depth analysis of the various types of academic texts
- reflect on issues in the philosophy of science that are relevant to the research on digital technology and society

General competence

The student can

- systematically discuss values and ethics raised concerning digitalisation and society
- perform their research with a high degree of ethical awareness and critically reflect upon research challenges in their own and others research work

Content

The purpose of the course is to discuss key concepts and issues in the philosophy of science and in research ethics, to present and discuss different understandings of what research is and may be, and to enable the students to be reflective in their own research practice.

The course will give insight in different historical and contemporary traditions and paradigms in the understanding and practice of science and prepare the students for taking part in critical discussions of their own research and the research of others. The course will also enable the students to reflect ethically on research, by discussing theories of research ethics, legislation and guidelines and ethics in everyday research practice. In addition to these general issues, the course focuses on different understandings of digital technology and society, and the philosophical debates of the relationship between nature and society, and materiality and the human.

Key issues that will be discussed in the course are: conceptions of research and science, understanding scientific knowledge and truth, understanding agency and society, and accounts of rationality, explanation, interpretation, relativism and values. Classic debates between rationalism and empiricism, between atomism and holism, between explanation and understanding and between social and natural science are presented and discussed. Different positions in the broad realism-constructivism debate will be debated. The course also discusses the different contributions from a rationally oriented philosophy of science and from an empirically oriented science study. The different conceptions of digital technology and of society are of particular interest. A variety of positions from technology determinism to material semiotics and post-humanism will be critically discussed.

The issue of digital technology raises several questions of value and ethics, for instance in the intersection of the human and technology, in how digital technology changes society to the good or to the worse and in responsibilities connected to development and use of digital technology. The issue of values also relates to research ethics. Research ethics is discussed in a broad sense, for instance the value impact of different kinds of research on society, and more specifically, related to the projects of the students. Among the issues are the relationship between individual rights and common utility, the responsibility to the research informants and field and the distinctions between legal regulations and ethical responsibility.

Forms of teaching and learning

Lectures, seminars and individual presentations, peer review of fellow student's paper, and discussions.

The duration of the course is six days, distributed over two or more sessions.

Workload

The workload is estimated to 130 hours.

Coursework requirements - conditions for taking the exam

- Individual oral presentation of a text-draft focusing on epistemological and research ethical challenges related to the student's own research project.
- A minimum of 80% attendance is required.

Examination

Individual paper

Assignment in the form of an individual paper focusing on epistemological and research ethical challenges related to the student's own research project. The paper should contain a maximum 6000 words. Literature list not included.

Grading scale: pass/fail.

Examiners

Two internal examiners.

Conditions for resit/rescheduled exams

Same requirements as the main exam.

Course evaluation

Feedback from our students is vital in order to develop and offer high quality courses. The course is evaluated using an oral evaluation conducted at the end of the course.

Literature

The [current reading list for 2023 Autumn](#) can be found in Leganto

Last updated from FS (Common Student System) July 17, 2024 12:15:04 AM

PHDDS95023 PhD Thesis in Digitalisation and Society (Autumn 2023–Spring 2026)

Facts about the course

ECTS Credits:
150

Responsible department:
**Faculty of Computer Science,
Engineering and Economics**

Campus:
Halden and/or Fredrikstad

Course Leaders:
• **Camilla Martha Ihlebæk**
• **Øystein Haugen**

Teaching language:
English

Duration:
3 years

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The course is connected to the following study programs

Compulsory course in the PhD programme Digitalisation and Society.

Absolute requirements

The coursework component of the PhD programme must be approved before the candidate can apply for assessment of the thesis.

Lecture Semester

During the whole PhD period.

The student's learning outcomes after completing the course

Knowledge

The candidate

- is in the forefront of knowledge within his/her field of study in research on digitalisation and society, and related scientific theories and methods
- can assess the appropriateness and utilisation of different methods and processes in research and innovation within digitalisation and society
- can contribute to the development of new knowledge, theories and methods in research on digitalisation and society

Skills

The candidate

- can develop and formulate research questions and is able to design and conduct research for exploring critical issues relevant to digital technology and society
- can conduct research following ethical norms and methodological approaches at an internationally high level, such that knowledge about digitalisation and society is extended and redefined
- can handle complex academic issues and identify knowledge gaps within the topic of specialisation, and challenge the established theories in a complex interdisciplinary environment

General competence

The candidate

- can identify and discuss relevant ethical issues and conduct research with high academic professional integrity
- can convey and disseminate results of research and innovation activities through national and international fora
- can participate in national and international academic and public discussions and debates within the topic of specialization
- can identify, initiate and pursue development processes related to research on digitalisation and society

Content

The thesis is the central part of the PhD study, and is based on the candidate's research project. The presented work should contribute with new knowledge within the scope of the programme Digitalisation and Society, and constitute an independent scientific work that meets international standards in terms of ethical requirements, academic level, and methodology. The thesis may be submitted either as a compilation of several papers (paper-based thesis) or as a monograph, with the requirements as regulated by § 12-1 in the regulations for PhD programmes at Østfold University College.

In a paper-based thesis, the candidate should normally be the main contributor in at least 50% of the papers (§12-3 (3)). When papers are produced in cooperation with other authors, the norms for coauthorship generally accepted within the academic community and in accordance with international standards must be followed, and signed declarations from all authors that describe the candidate's contribution to each must be included when submitting the thesis.

Both types of theses must include an introduction to the research field, state-of-the art, theoretical framework, and identify knowledge gaps. Furthermore, the thesis must clearly state the research questions and goals, provide an overview of the methods applied and research results obtained, discuss the methodology, results, contributions, and implications for theory, practice and policy (if any), and position the scientific results within the state-of-the-art of the research field. If the thesis is paper-based, this is done in the superstructure (kappa) authored by the candidate. The superstructure must documenting the coherence of the thesis.

The required level of quality of a thesis is the same, regardless of whether it is a monograph or paper-based.

The format of the thesis is normally article based. When academically required or natural, the monograph format can be chosen. The thesis language is English. Norwegian language can be used in cases when academically required or natural.

Forms of teaching and learning

Teaching is provided in the form of academic supervision. The main supervisor should normally be from ØUC and there will always be at least one co-supervisor. Candidates are entitled to 210 hours of supervision in relation to their research projects. Other learning methods consist of self-study, research activities, and participation in research groups and communities. The candidates are expected to give presentations of their research in internal and external fora such as international scientific conferences.

Workload

N/A

Coursework requirements - conditions for taking the exam

- A mid-term evaluation of the progress of the candidate shall be conducted during the third or fourth semester. The candidate should present the work and progress at that point, to a group of at least two persons appointed by the programme committee.
- The requirements of 30 ECTS course work must be completed and approved before the thesis can be submitted.

Examination

Thesis, trial lecture, and public defence.

Assessment

Minor revision: revised thesis within 3 months

Major revision: revised thesis within 6 months

Fail

Conditions for resit/rescheduled exams

For candidates who fail the thesis or the defence, there is no re-sit examination.

Last updated from FS (Common Student System) July 17, 2024 12:15:05 AM

PHDDS90323 Research Methods: Methodology Matters (Spring 2024)

Facts about the course

ECTS Credits:
5

Responsible department:
**Faculty of Computer Science,
Engineering and Economics**

Campus:
Halden and/or Fredrikstad

Course Leaders:
• **Anders Nordahl-Hansen**
• **Julianne Cheek**

Teaching language:
English

Duration:
½ year

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The course is connected to the following study programs

Compulsory course in the PhD programme Digitalisation and Society.

PhD students from other institution are welcome to apply, but students from this PhD programme will be prioritised.

Recommended requirements

Masters level knowledge in qualitative and/or quantitative methods

Lecture Semester

2nd or 4th semester (spring)

Spring 2024: April 22-24 and May 13-15

The student's learning outcomes after completing the course

Knowledge

The student:

- is aware of the traditional division of methodologies and their associated methods into broad categories of quantitative, qualitative, mixed and multiple methods research
- understands that methods are produced by theoretical, methodological and ethical considerations

- understands the nature of interdisciplinary research and the way that researching across disciplines affects thinking about methods
- is aware of issues related to the appropriateness, rigor, trustworthiness/validity of different methods and their combinations to address complex multifaceted problems
- has knowledge of contemporary trends in new and different ways of combining methods and developing research programs

Skills

The student:

- understands, and can critically evaluate, the connections between the traditional way of categorizing research into qualitative, quantitative and mixed and multiple methods approaches.
- has broad understanding of transcending these traditional categorizations of research when researching new and areas in the wake of rapid digital transformation of societies
- can evaluate the appropriateness, rigor, trustworthiness/validity of different methods and their combinations to address complex multifaceted problems
- can critically evaluate the way methods are reported in scientific work with particular emphasis on methodological and theoretical issues
- can make the connection between methods, type of data and what is considered evidence in light of different types of methodological thinking

General competence

The student can:

- apply the knowledge about traditional research methodologies, including innovative ways of combining, developing and/or refining existing methods, to other societal contexts and issues

- make connections between theoretical, methodological and ethical considerations when choosing methods and conducting their research including the idea of being a responsible methodologist
- make decisions about the issues and challenges arising from the nexus between the digital transformation of society and research
- think reflexively when choosing methods in order to plan and conduct meaningful research

Content

This course focuses on methods as a central part of a PhD education. The shape that a method takes is the result of methodological, theoretical, and ethical considerations. Therefore, we will explore the traditional division of methodologies and their associated methods into broad categories of quantitative, qualitative, mixed and multiple methods research.

Principles in each type of method and how this is connected to understandings of what data and evidence, as well as evidence based practice, are, or even can be, will be addressed. Understandings of the appropriateness, rigor, trustworthiness/validity of different methods and their combinations to address complex multifaceted problems, will be explored. This includes interdisciplinary research and the way that researching across disciplines affects thinking about methods.

Traditional and new trends related to combining methods and developing research programs will be addressed. This takes the focus off methods as a standalone technique. In this way, the course will provide a good foundation for understanding what needs to be thought through, and what goes on behind the scenes, when choosing, implementing and making claims based on methods chosen in a research project.

Forms of teaching and learning

Lectures, seminars and individual presentations, peer review of fellow student's paper, and discussions.

The duration of the course is six days, distributed over two or more sessions.

Workload

The workload is estimated to 130 hours.

Coursework requirements - conditions for taking the exam

- A minimum of 80% coursework attendance is required.
- Presentation on an aspect of connections between theoretical, methodological and ethical considerations when designing and conducting their research and/or innovative ways of combining, developing and/or refining existing methods, to other societal contexts and issues.

Examination

Individual critical reflection note on a methodological issue related to their individual project
3000-4000 words.

Grading scale: pass/fail.

Examiners

Two internal examiners

Conditions for resit/rescheduled exams

Students that fail the exam are allowed to rework their reflection note once. If the reworked reflection note is evaluated as 'Fail', the student has to write a new, and different, note to be submitted no later than two – 2 – months after the ordinary exam.

Course evaluation

Feedback from our students is vital in order to develop and offer high quality courses. The course is evaluated using an oral evaluation conducted at the end of the course.

Literature

The [current reading list for 2024 Spring](#) can be found in Leganto

Last updated from FS (Common Student System) July 17, 2024 12:15:06 AM

PHDDS91423 Education in the Digital Society (Spring 2024)

Facts about the course

ECTS Credits:

5

Responsible department:

**Faculty of Computer Science,
Engineering and Economics**

Campus:

Halden

Course Leaders:

- **Ingeborg Hognestad Krange**
- **Hilde Afdal**

Teaching language:

English

Duration:

½ year

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The course is connected to the following study programs

Elective course in the Phd programme Digitalisation and Society.

PhD students from other institutions are welcome to apply, but student from this PhD programme will be prioritised.

Recommended requirements

For PhD students with limited prerequisite knowledge of philosophy of education it is recommended to read some basic literature such as e.g. Noddings, N. (2018). Philosophy of Education. Oxon: Routledge.

Lecture Semester

2nd and 4th semester (spring)

Spring 2024: February 5-7 and April 3-5

The student's learning outcomes after completing the course

Knowledge

The student

- has state of the art knowledge about the relationship between digitalization and education
- has advanced knowledge about how pedagogical, psychological and sociological theories and epistemological foundations have developed in research on education in a digital

society

Skills

The student

- can analyse and critically discuss and evaluate how various epistemological and ontological positions influence the development of and the research on education in a digital society
- can demonstrate and discuss complex theoretical and methodological issues in the light of the course content

General competence

The student

- can manage complex interdisciplinary discussions on education and digitalization drawing on multiple theoretical resources from the fields of education, work, health and computing
- can participate in scholarly debates at an international level about fundamental principles on the interplay between digital technologies/reality and conditions for teaching, learning and knowledge processes

Content

The course Education in a digital society introduces some fundamental principles regarding the relation between digital technologies and teaching, learning and communication, within educational institutions, working life and related contextual aspects, and welcome applicants conducting both empirical and theoretical studies. More specifically, the focus will be on how digital technologies constitute actors, activities, materiality, knowledge-, learning- and teaching processes in various educational settings. Digital devices/technologies are not considered static objects, and digital artefacts are in turn transformed by how they are used in teaching, learning and knowledge processes.

The course will have a wide take on education, and are defined within the range of
(a) formal educational settings opening up for examining aspects from micro-processes such

as the implementation and use of digital technologies and their influence on educational actors and institutions from pre-schools to higher education, to macro processes such as policymaking of education in a digital world or on comparative cases,

(b) working life - how digitalization influences teaching, learning processes and knowledge production in a lifelong learning perspective, and

(c) everyday life and social activities such as e.g. social media, recreational activities, and organizational work.

The course is focusing specifically on three theoretical areas of interest; knowledge and knowledge processes, teaching and learning and language and communication.

Knowledge and knowledge processes: The first area of interest is how pedagogical theories and epistemological foundations have developed in research on education in a digital society. A central component focuses on the developed epistemological and ontological grounds of education and digital technology, reflected in international as well as Norwegian research, by accounting for the perspectives such as e.g. socio-material aspects, as well as distributed, situated, external and embedded learning processes.

Teaching and learning: The second area of interest concerns pedagogical, psychological and sociological theories that focus on how technologies might be designed and used to support, enhance and improve learning. The implications of these approaches for knowledge creation, digital competence, digital agency and digital identity in the 21st century will be considered. In addition will aspects of social learning networks, communication and collaboration in digital environments as well as changes in educational values, be addressed.

Language and communication: The third area of interest will examine the interplay between digital technology, literacy, language and communication to discuss how technology shapes and upholds values, ways of communicating and how we understand learning. Further, the course will introduce theoretical approaches and tools to understand and critically analyse interactive and multimodal texts in digital learning contexts.

Forms of teaching and learning

The course is based on lectures and seminars/webinars. Active contributions from the students in the form of discussion and short presentations are expected.

The duration of the course is six days, distributed over two or more sessions.

Workload

The workload in the course is estimated to about 130 hours.

Coursework requirements - conditions for taking the exam

- A minimum of 80% attendance is required
- Presenting own work and commenting on peers work

Examination

An individual paper within the topic of the course and relating to the candidate own research project. This text should contain approx. 3000 - 6000 words. Literature list not included.

Grading scale: pass/fail.

Examiners

Two internal examiners.

Conditions for resit/rescheduled exams

Same requirements as the main exam.

Course evaluation

Feedback from our students is vital in order to develop and offer high quality courses. The course is evaluated using an oral evaluation conducted at the end of the course.

Literature

The [current reading list for 2024 Spring](#) can be found in Leganto

Last updated from FS (Common Student System) July 17, 2024 12:15:06 AM

PHDDS91523 Health, Quality of Life and Digitalisation (Spring 2024)

Facts about the course

ECTS Credits:

5

Responsible department:

**Faculty of Computer Science,
Engineering and Economics**

Campus:

Halden and/or Fredrikstad

Course Leaders:

- **Vigdis Abrahamsen Grøndahl**
- **Lilliana Andrea Del Busso**

Teaching language:

English

Duration:

½ year

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The course is connected to the following study programs

Elective course in the PhD programme Digitalisation and Society.

PhD students from other institutions are welcome to apply, but students from this PhD programme will be prioritised.

Lecture Semester

2nd or 4th semester (spring)

Spring 2024: April 10-12 and May 6-8

The student's learning outcomes after completing the course

Knowledge

The student

- has advanced knowledge about how digitalisation and digital tools can be developed and utilised to promote health and quality of life, and can also approach this critically
- can evaluate how digitalisation within different settings influences persons, interpersonal relationships and interactions
- can evaluate ethical perspectives in relation to health and quality of life, and digitalisation
- can contribute to the development of new knowledge in relation to health and quality of life in relation to digitalisation

Skills

The student

- can critically discuss and analyse opportunities and challenges of digitalisation in relation to health and quality of life

General competence

The student

- can identify and critically evaluate digital practices and experiences related to health and quality of life in different settings
- can identify ethical issues in relation to relevant research projects
- can identify and assess the need for digital innovation in relation to health and quality of life

Content

The course Health, Quality of Life and Digitalisation comprises an exploration and critical analysis of how the development and implementation of digital technologies affect health and quality of life, and how these innovations are experienced by stakeholders in different settings. As such health and social care, educational and workplace settings, will be explored. In doing so, the course will consider how stakeholders can be co-creators, participate in and influence technological development and implementation processes.

The course takes a critical biopsychosocial approach to health, quality of life and digitalisation, and both individual and societal perspectives will thus be explored. New digital modes of interacting and communicating will be highlighted, and the ways in which technological development can promote health, quality of life and increased empowerment and independence, will be discussed in this context. In addition, the course explores issues of marginalisation, alienation and power in relation to the experiences of different stakeholders.

Ethical perspectives on digitalisation will also be highlighted.

Lectures will be given on specific topics including:

- impact of digital technologies on health and quality of life

- opportunities and consequences of digitalisation in health and welfare services, educational and workplace settings for health and quality of life

- digitalisation in health and welfare services – policies, practices and artefacts
- user participation and autonomy in evolving digital health and welfare services
- possibilities for coping, agency and empowerment in relation to digital tools and solutions

- digitalisation of social interactions and relations
- marginalisation, power and violence in digitalised societies
- ethical challenges and considerations in relation to health, quality of life and

digitalisation

- practical examples of specific digital tools or systems, and how these are utilised in real-world settings

Forms of teaching and learning

Lectures, seminars and individual presentations, peer review of fellow student's paper, and discussions.

The duration of the course is six days, distributed over two or more sessions.

Workload

The workload is estimated to 130 hours.

Coursework requirements - conditions for taking the exam

A minimum of 80% attendance is required.

Examination

Individual draft text/article focusing on health, quality of life and digitalisation in relation to the student's own research projects, which can be utilised in the overall writing of the thesis. Approximately 3000 words +/- 10%.

Grading scale: pass/fail.

Examiners

Two internal examiners.

Conditions for resit/rescheduled exams

Same requirements as the main exam.

Course evaluation

Feedback from our students is vital in order to develop and offer high quality courses. The course is evaluated using an oral evaluation conducted at the end of the course.

Literature

The [current reading list for 2024 Spring](#) can be found in Leganto

Last updated from FS (Common Student System) July 17, 2024 12:15:06 AM

PHDDS91623 Work in the Digital Age (Spring 2024)

Facts about the course

ECTS Credits:

5

Responsible department:

**Faculty of Computer Science,
Engineering and Economics**

Campus:

Halden and/or Fredrikstad

Course Leaders:

- **Lilja Mosesdottir**
- **Catharina Bjørkquist**

Teaching language:

English

Duration:

½ year

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The course is connected to the following study programs

Elective course in the PhD programme Digitalisation and Society.

PhD students from other institutions are welcome to apply, but students from this PhD programme will be prioritised.

Lecture Semester

2nd or 4th semester (spring)

Spring 2024: February 21-23 and March 20-22

The student's learning outcomes after completing the course

Knowledge

The student has:

- advanced knowledge of relevant academic debates, theoretical frameworks and concepts for work in the digital age
- advanced empirical knowledge on the digital transformation of working life, work organisations, and society

Skills

The student is able to:

- demonstrate substantial authority, autonomy, scholarly and professional integrity researching relevant themes

- engage in critical discussions, become acquainted with the work of others on relevant themes
- analyze how digitalisation promotes change and transformation at the professional, organizational and institutional level

General competence

The student can:

- review and consider the interdependency between digital transformation and employees, organisations and institutions
- communicate complex information and research results on recent developments of the digitalization of working life to a range of audiences

Content

We are in the midst of a digital transformation with increasingly sophisticated digital technologies, such as artificial intelligence and robotics, joining the workforce. This course explores how emerging technologies interact with labour markets, businesses, organisations, skills, and create conditions for transforming organisation of work, ways of working, and people's physical, mental and collaborative capacities. Digital transformation involves not only use of technologies to achieve fundamental changes in work-related structures, processes and social relations but also provide opportunities to design a future involving a welfare state that is sustainable, productive, inclusive, just and fair. These profound changes require an interdisciplinary approach and needs to be researched using different methods and theoretical frameworks.

The course will give in-depth understandings of the interplay between digital technologies and work. Departing from a humanistic and social science perspective the focus will be on technology disruption in a contemporary context. The course explores the interdependencies between technology, organisations and actors with a particular emphasis on the opportunities and challenges related to the following subjects:

- Employment, work content and processes, skills requirements and pay

- Policy making, regulation and the welfare state services
- Societal and cultural development, such as social quality, gender and ethnic dimensions
- Collaboration between various stakeholder groups within and across the private and public sectors, e.g. developers of technology, health and welfare services and citizens

Ethical, juridical and practical aspects in working life cut across these four subjects.

The course content is theoretically and methodologically interdisciplinary. It explores interactions, processes and outcomes in working life related to professions, organisations, policies and regulations to understand these processes across various fields and sectors.

Forms of teaching and learning

Lectures, seminars and individual presentations, peer review of fellow student's paper, and discussions of real-world cases.

The duration of the course is six days, distributed over two or more sessions.

Workload

The workload is estimated to 130 hours.

Coursework requirements - conditions for taking the exam

- A minimum of 80% attendance is required.
- Presenting paper draft focussing on a relevant topic, individual oral presentation.

Examination

Individual paper on a topic relevant for the course of 3000 - 5000 words.

Grading scale: pass/fail.

Examiners

Two internal examiners.

Conditions for resit/rescheduled exams

Same requirements as the main exam.

Course evaluation

Feedback from our students is vital in order to develop and offer high quality courses. The course is evaluated using an oral evaluation conducted at the end of the course.

Literature

The [current reading list for 2024 Spring](#) can be found in Leganto

Last updated from FS (Common Student System) July 17, 2024 12:15:06 AM

PHDDS91823 Artificial Intelligence – Hypes and Hopes (Spring 2024)

Facts about the course

ECTS Credits:
5

Responsible department:
**Faculty of Computer Science,
Engineering and Economics**

Campus:
Halden and/or Fredrikstad

Course Leader:
Stefano Nichele

Teaching language:
English

Duration:
½ year

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The course is connected to the following study programs

Elective course in the PhD programme Digitalisation and Society.

PhD candidates from other institutions are welcome to apply, but students from this PhD programme will be prioritised.

Recommended requirements

Elementary knowledge of computer science and programming.

Basic knowledge of mathematics and statistics.

Lecture Semester

2nd semester (spring)

Spring 2024: March 11-13 and May 29-31

The student's learning outcomes after completing the course

Knowledge

The student has

- an overview over important terms and concepts within AI
- knowledge of ethical issues involved when developing and using AI systems
- knowledge about practical challenges with AI systems, including overfitting/underfitting
- an overview over techniques available to solve ethical issues when using AI systems and their limitations

Skills

The student can

- choose the correct algorithm for a given type of data
- empirically evaluate AI systems
- discuss and address ethical issues involved when collecting data for, developing, and using AI systems
- develop simple AI systems using basic machine learning algorithms

General competence

The student has improved his/her competence in

- treating and analysing data
- evaluating AI systems realistically

Content

Artificial Intelligence (AI) has become much-discussed topic in most academic disciplines and general mainstream news and media. The promise of AI is seemingly great, as it can purportedly help us solve just about all scientific problems, enable autonomous transportation, lead to new business insight and innovation, help improve political processes, fight pandemics, help reach the sustainable development goals, and so on. However, other voices argue that AI is associated with a number of important flaws and shortcomings. Some focus on how the capability of AI to solve problems are exaggerated, and others focus on the importance of considering the potential negative consequences related to the process of developing and using AI systems – whose behavior might not be fully understood. This course aims to provide the students with a deeper understanding of what AI really is, and its true potential, allowing them to evaluate, recognize and distinguish between AI hype and hopes based on a realistic assessment and appropriate use of AI.

A lot of different terms are associated with the concept of AI, such as narrow and general intelligence, supervised and unsupervised learning, neural networks, and deep learning. These terms are regularly used in research articles without being defined, and in this course we will unpack and explain them, along with the concept of AI in general. The students will learn how to use basic programming and statistics skills to develop and evaluate basic AI systems. This will both allow them to choose appropriate models and applications, and they will be able to understand and engage with research involving AI algorithms in their own and other fields.

As the students learn to realistically assess the limits of AI systems, they will also learn of the dangers associated with what these systems can be used for. Because the logic behind AI systems' decisions can be difficult or impossible to follow, the use of AI systems presents unique ethical challenges involving, for example, fairness and bias, accountability, transparency, and issues related to privacy. The status and potential for explainable AI will thus be emphasized.

Privacy is another key topic in this course, as many important uses of AI systems involve the collection and processing of personal data. This course aims to provide the students with an understanding of how sensitive data can be protected using data anonymization techniques and privacy-preserving models. Furthermore, legal frameworks, such as GDPR, controls how AI systems can be used in the EU, and the students will learn how compliance with such frameworks is handled.

This course is suitable for everyone with the recommended previous knowledge, including experienced and inexperienced AI practitioners.

Forms of teaching and learning

Lectures, seminars and individual presentations, peer review of fellow student's paper, and discussions.

The duration of the course is six days, distributed over two or more sessions.

Workload

The workload is estimated to 130 hours.

Coursework requirements - conditions for taking the exam

- A minimum of 80% coursework attendance is required.

Examination

Individual assessment is based on two parts:

1. An individual essay/article of approx. 3000 words. The students choose their own topic related to the course content, which must be approved by the course convenors.
2. An individual oral presentation where the candidate presents the content of the essay/article. Duration approximately 20 minutes, followed by a 10-minute discussion.

The essay/article must be approved before the oral examination.

Grading scale: Pass/Fail

Examiners

One internal and one external examiner

Conditions for resit/rescheduled exams

Same requirements as the main exam.

Course evaluation

Feedback from our students is vital in order to develop and offer high quality courses. The course is evaluated using an oral evaluation conducted at the end of the course.

Literature

The [current reading list for 2024 Spring](#) can be found in Leganto

Last updated from FS (Common Student System) July 17, 2024 12:15:07 AM

PHDDS92023 Open and Credible Science (Autumn 2024)

Facts about the course

ECTS Credits:
5

Responsible department:
**Faculty of Computer Science,
Engineering and Economics**

Campus:
Halden and/or Fredrikstad

Course Leader:
Tamara Kalandadze

Teaching language:
English

Duration:
½ year

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The course is connected to the following study programs

Elective course in the PhD programme Digitalisation and Society.

PhD candidates from other institutions are welcome to apply, but students from this PhD programme will be prioritised.

Absolute requirements

Research methods, philosophy and history of science, and experience with scientific writing.

Lecture Semester

Autumn 2024: 3rd semester

The student's learning outcomes after completing the course

Knowledge

The student has developed knowledge about

- the principles of O&C science, as well as O&C science tools for research workflow
- how to pre-register a study; how to write registered reports; how to make the research materials open; how to make the research data open; how to write journal articles transparently; open access publishing
- core principles of data management that will remain the same, despite the new tools developed, and according to the Open Science and FAIR (Findable, Accessible, Interoperable and Reusable) principles

Skills

The student is able to

- employ O&C science principles in all the steps in the research process, from designing a project to communication of research results
- plan replicating, and pre-registering a study, pre-registering a systematic review protocol, writing a registered report
- plan curating and managing research data, considering national and international legal and ethical regulations related to data collection, storage, publishing, and sharing
- identify suitable repositories/platforms for storage of all study materials (e.g., manage research project in the Open Science Framework)
- write transparent research reports and increase the visibility of own research

General competence

The student has developed understanding about

- historical, philosophical, ethical and personal dimensions of O&C science/research
- recent developments and ongoing debates concerning O&C science/research
- different facets of academic and scientific publishing including considerations when

Content

The purpose of this PhD-course is twofold:

1) to develop students' knowledge and understanding of the foundations, recent developments and ongoing debates in Open and Credible (O&C) science;

2) to equip students with knowledge of basic tools, platforms for registering and sharing data and materials, as well as necessary skills to implement O&C science principles in their research workflow.

The course will cover the recent initiatives related to reconsidering the foundations of scientific research. The course will provide an insight into the benefits, obstacles, and controversy of the O&C science approach. Students will be encouraged to think critically about how research is conducted and inferences are made in their own fields. Discussions will cover both quantitative, qualitative and mixed methods' research.

Topics such as transparency and accessibility, reproducibility, replicability, integrity, ethics, diversity, equity and inclusion, rigour and robustness of scientific research will be addressed. In addition, open peer-review, meta-science/meta-research and open and reproducible research synthesis will be introduced and discussed.

Students will be introduced to various initiatives, networks, and communities focusing on O&C science (e.g., Framework for Open and Reproducible Research Training (FORRT), RiOT Science Club, ReproducibiliTea). Students will also become familiar with platforms and/or depositories to make the workflow open and effective (e.g., GitHub, Open Science Framework and Zenodo).

Open science takes advantage of the digital technologies and awareness of basic software and platforms for registering and sharing research, as well as digital skills of researchers are the critical determinant of scientific success. Therefore, librarians will be invited to the course to introduce and discuss effective data management, including legal and ethical data sharing and dissemination of scientific knowledge. The students will also engage in discussions related to the affordances of the main platforms/repositories to store research materials including research data. The course will use a participatory approach and students will be encouraged to reflect over and engage in discussions related to the topics included in this course description.

A broader scope of the course will offer participants from various fields possibilities to learn, reflect on, and discuss how they can contribute to increase the credibility, integrity, and rigour of their own research, both quantitative, qualitative, and mixed methods, as well as to better evaluate research conducted by others.

Forms of teaching and learning

Lectures, seminars and individual presentations, peer review of fellow student's paper, and discussions.

The duration of the course is six days, distributed over two or more sessions.

Workload

The workload is estimated to 130 hours.

Coursework requirements - conditions for taking the exam

- Write an evaluation of replicability and reproducibility of selected earlier studies. Studies to be evaluated will be selected by course instructors.
- Produce a data management plan
- A minimum of 80% coursework attendance is required.

Examination

Individual oral presentation

The student is required to prepare a 20 minutes oral presentation introducing a plan on how he/she intends to implement O&C science principles in their own research. Presentations will be supplemented by follow-up discussions with the fellow students.

The student is allowed to use PC/laptop for the presentation.

Grading scale: pass/fail.

Examiners

Two internal examiners.

Conditions for resit/rescheduled exams

Same requirements as the main exam.

Course evaluation

Feedback from our students is vital in order to develop and offer high quality courses. The course is evaluated using an oral evaluation conducted at the end of the course.

Literature

The [current reading list for 2024 Autumn](#) can be found in Leganto

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PHDDS91923 Co-designing IT for Cooperation (Spring 2025)

Facts about the course

ECTS Credits:

5

Responsible department:

**Faculty of Computer Science,
Engineering and Economics**

Campus:

Fredrikstad/Halden

Course Leaders:

- **Klaudia Carcani**
- **Joakim Karlsen**

Teaching language:

English

Duration:

½ year

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The course is connected to the following study programs

Elective course in the PhD programme Digitalisation and Society.

PhD-candidates from other institutions are welcome to apply, but students from this PhD programme will be prioritised.

Lecture Semester

3th or 4th semester (spring)

The student's learning outcomes after completing the course

Knowledge

The student has

- advanced knowledge of theories and concepts for understanding how people cooperate in workplaces or in everyday life
- state of the art knowledge of methods, tools and techniques for designing IT solutions in support of cooperative work practices
- advanced knowledge of the principles of how to secure accountability and participation in designing IT solutions

Skills

The student can

- demonstrate and critically discuss methods, tools, and techniques for designing IT solutions in support of cooperative practices

General competence

The student can

- conduct methodologically and ethically sound research according to high scientific standards in the research fields of CSCW and PD

Content

The course introduces the students to Computer-Supported Cooperative Work (CSCW), an interdisciplinary research field concerned with understanding how to support cooperative work practices by technology design. The course gives the student an overview of central theories and concepts for understanding how people cooperate in organisations and workplaces, and how to design IT solutions to support this cooperation.

CSCW as a field of research was established in the 80s, to solve problems with early online transaction processing systems, which often hid the presence of other users and broke down in view of the 'situated' nature of cooperative work ie. did not support users in what they needed to do together. To be able to improve such systems, systematic studies of actual cooperative work practices in real-world settings were conducted to design better tools for coordination. In this, researchers from the social sciences and HCI fields collaborated tightly and established CSCW as an interdisciplinary field from the start.

CSCW implies an active and forward-looking approach to technology design in which ethnographic and other forms of in-depth workplace studies play an essential and proactive role, with a keen attention to the moment-by-moment flow of cooperative work, how people coordinate and manage tasks together – the situated and cooperative integration of tools, documents, actions, and interactions.

A broad selection of methods, tools and techniques have been applied in CSCW research, but the course have a special focus on techniques to secure and configure participation in Co-designing IT for cooperation. The candidate will be introduced to the principles of participatory design (PD), emphasizing democratic processes, user empowerment and mutual learning. The students will get practical experience with how these principles matter for designing IT in support of cooperative work. In this they will work with tools and techniques to prototype IT solutions with users without the need for advanced programming skills.

The lectures and plenary discussions will focus on:

- classical case studies in CSCW
- central theories and concepts in CSCW
- methods, tools and techniques for designing support for cooperative practices as developed in CSCW
- the principles of PD and how they matter in designing IT solutions

Forms of teaching and learning

Lectures, seminars and individual presentations, peer review of fellow student's paper, and discussions.

The duration of the course is six days, distributed over two or more sessions.

Workload

The workload is estimated to 130 hours.

Coursework requirements - conditions for taking the exam

- Project work in groups.

Examination

Individual oral exam. Approximately 30 minutes duration.

Some supporting material will be allowed, specified by the lecturer.

Grading scale: pass/fail.

Examiners

One external and one internal examiner, or two internal examiners.

Conditions for resit/rescheduled exams

Same requirements as the main exam.

Course evaluation

Feedback from our students is vital in order to develop and offer high quality courses. The course is evaluated using an oral evaluation conducted at the end of the course.

Literature

Barley, Stephen R. 1986. 'Technology as an Occasion for Structuring: Evidence from Observations of CT Scanners and the Social Order of Radiology Departments'. *Administrative Science Quarterly* 31 (1): 78–108.

Bødker, Susanne. 2006. 'When Second Wave HCI Meets Third Wave Challenges'. In *Proceedings of the 4th Nordic Conference on Human-Computer Interaction: Changing Roles*, 1–8. NordiCHI '06. New York, NY, USA: ACM.

Bødker, Susanne, Christian Dindler, and Ole Sejer Iversen. 2017. 'Tying Knots: Participatory Infrastructuring at Work'. *Computer Supported Cooperative Work (CSCW)* 26 (1–2): 245–73.

Bowers, John, Graham Button, and Wes Sharrock. 1995. 'Workflow From Within and Without: Technology and Cooperative Work on the Print Industry Shopfloor', 51–66.

Brandt, Eva, Thomas Binder, and Elizabeth B.-N. Sanders. 2013. 'Tools and Techniques: Ways to Engage Telling, Making and Enacting'. In *Routledge International Handbook of Participatory Design*, edited by Jesper Simonsen and Toni Robertson, 145–81. London: Routledge.

Bratteteig, Tone, and Ina Wagner. 2013. 'Moving Healthcare to the Home: The Work to Make Homecare Work'. In *ECSCW 2013: Proceedings of the 13th European Conference on Computer Supported Cooperative Work, 21-25 September 2013, Paphos, Cyprus*, edited by Olav W. Bertelsen, Luigina Ciolfi, Maria Antonietta Grasso, and George Angelos Papadopoulos, 143–62. London: Springer.

———. 2016. 'Unpacking the Notion of Participation in Participatory Design'. *Computer Supported Cooperative Work (CSCW)* 25 (6): 425–75.

Çarçani, Klaudia, and Harald Holone. 2019. 'Boundary Objects or Coordination Mechanisms?' *Selected Papers of the IRIS, Issue Nr 9 (2018)*, June.

Carstensen, Peter H., and Carsten Sørensen. 1996. 'From the Social to the Systematic'. *Computer Supported Cooperative Work (CSCW)* 5 (4): 387–413.

Dourish, Paul, and Victoria Bellotti. 1992. 'Awareness and Coordination in Shared Workspaces'. In *Proceedings of the 1992 ACM Conference on Computer-Supported Cooperative Work - CSCW '92*, 107–14. Toronto, Ontario, Canada: ACM Press.

Fitzpatrick, Geraldine, and Gunnar Ellingsen. 2013. 'A Review of 25 Years of CSCW Research in Healthcare: Contributions, Challenges and Future Agendas'. *Computer Supported Cooperative Work (CSCW)* 22 (4): 609–65.

Flügge, Asbjørn William Ammitzbøll, Thomas Hildebrandt, and Naja Holten Møller. 2020. 'Algorithmic Decision Making in Public Services: A CSCW-Perspective'. In *Companion of the 2020 ACM International Conference on Supporting Group Work*, 111–14. GROUP '20. New York, NY, USA: Association for Computing Machinery.

Gasser, Les. 1986. 'The Integration of Computing and Routine Work'. *ACM Transactions on Information Systems* 4 (3): 205–25.

Gross, Tom. 2013. 'Supporting Effortless Coordination: 25 Years of Awareness Research'. *Computer Supported Cooperative Work (CSCW)* 22 (4–6): 425–74.

Harrison, Steve, and Paul Dourish. 1996. 'Re-Place-Ing Space: The Roles of Place and Space in Collaborative Systems'. In *Proceedings of the 1996 ACM Conference on Computer Supported Cooperative Work*, 67–76. CSCW '96. New York, NY, USA: ACM.

Heath, Christian, and Paul Luff. 1992. 'Collaboration and ControlCrisis Management and Multimedia Technology in London Underground Line Control Rooms'. *Computer Supported Cooperative Work (CSCW)* 1 (1): 69–94.

Holone, Harald, Gunnar Misund, Haakon Tolsby, and Steinar Kristoffersen. 2008. 'Aspects of Personal Navigation with Collaborative User Feedback'. In *Proceedings of the 5th Nordic*

Conference on Human-Computer Interaction: Building Bridges, 182–91. NordiCHI '08. New York, NY, USA: ACM.

Kensing, Finn, and Jeanette Blomberg. 1998. 'Participatory Design: Issues and Concerns'. *Computer Supported Cooperative Work (CSCW)* 7 (3–4): 167–85.

Kensing, Finn, and Joan Greenbaum. 2013. 'Heritage:Having a Say'. In *Routledge International Handbook of Participatory Design*, edited by Jesper Simonsen and Toni Robertson, 21–37. London: Routledge.

Luff, Paul, and Christian Heath. 1998. 'Mobility in Collaboration'. In *Proceedings of the 1998 ACM Conference on Computer Supported Cooperative Work*, 305–14. CSCW '98. New York, NY, USA: ACM.

Mutlu, Bilge, and Jodi Forlizzi. 2008. 'Robots in Organizations: The Role of Workflow, Social, and Environmental Factors in Human-Robot Interaction'. In *2008 3rd ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, 287–94.

Niklasson, Axel. 2020. 'AI for Teams: The Future of Assisted Collaborative Work'.

Orlikowski, Wanda J., and C. Suzanne Iacono. 2001. 'Research Commentary: Desperately Seeking the "IT" in IT Research—A Call to Theorizing the IT Artifact'. *Information Systems Research* 12 (2): 121–34.

Pipek, Volkmar, and Volker Wulf. 2009. 'Infrastructuring: Toward an Integrated Perspective on the Design and Use of Information Technology'. *Journal of the Association for Information Systems* 10 (5): 447.

Prilla, Michael, Oliver Blunk, and Irene-Angelica Chounta. 2020. 'How Does Collaborative Reflection Unfold in Online Communities? An Analysis of Two Data Sets'. *Computer Supported Cooperative Work (CSCW)* 29 (6): 697–741.

Saatçi, Banu, Kaya Akyüz, Sean Rintel, and Clemens Nylandsted Klokmose. 2020. '(Re)Configuring Hybrid Meetings: Moving from User-Centered Design to Meeting-Centered Design'. *Computer Supported Cooperative Work (CSCW)* 29 (6): 769–94.

Schmidt, Kjeld. 2011. 'The Concept of "Work" in CSCW'. *Computer Supported Cooperative Work (CSCW)* 20 (4–5): 341–401.

Schmidt, Kjeld, and Liam Bannon. 1992. 'Taking CSCW Seriously'. *Computer Supported Cooperative Work (CSCW)* 1 (1–2): 7–40.

Schmidt, Kjeld, and Jørgen Bansler. 2016. 'Computational Artifacts: Interactive and Collaborative Computing as an Integral Feature of Work Practice'. In *COOP 2016: Proceedings of the 12th International Conference on the Design of Cooperative Systems, 23-27 May 2016, Trento, Italy, 21–38*. Springer International Publishing.

Schmidt, Kjeld, and Carla Simonee. 1996. 'Coordination Mechanisms: Towards a Conceptual Foundation of CSCW Systems Design'. *Computer Supported Cooperative Work (CSCW)* 5 (2–3): 155–200.

Simonsen, Jesper, Helena Karasti, and Morten Hertzum. 2020. 'Infrastructuring and Participatory Design: Exploring Infrastructural Inversion as Analytic, Empirical and Generative'. *Computer Supported Cooperative Work (CSCW)* 29 (1): 115–51.

Star, Susan Leigh, and James R. Griesemer. 1989. 'Institutional Ecology, `Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39'. *Social Studies of Science* 19 (3): 387–420.

Suchman, Lucy. 2002. 'Located Accountabilities in Technology Production'. *Scandinavian Journal of Information Systems* 14 (2).

Verne, Guri, and Tone Bratteteig. 2016. 'Do-It-Yourself Services and Work-like Chores: On Civic Duties and Digital Public Services'. *Personal and Ubiquitous Computing* 20 (4): 517–32.

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