# Vedlegg: Emnebeskrivelse for emner som inngår i programspesialiseringen

The programme consists of full-time studies over three years, with a total of 180 credits (ECTS). It is comprised of the following elements:

- A specialization in interdisciplinary studies of technology, innovation and society (90 ECTS + 10 ECTS replacing ex.fac, total 100 ECTS)
- An elective minor specialization ("40-gruppe") (40 ECTS)
- Open elective courses / international exchange semester (30 ECTS)
- The obligatory, university-wide course Ex.phil (10 ECTS)

The following pages contain course descriptions for all new and existing courses that will be part of the specialization (90+10 ECTS), with the exception of courses that will be provided by other units at the university (i.e. one supporting course, 10 ECTS, and one additional methods course, 10 ECTS).

UNIVERSITETET
I OSLO

**Notat**

**2**

# TIK1000 Studying technology and societal change (new course)

*(Note: This course replaces Ex.fac. and will have a 10 ECTS overlap with SVEXFAC03.)*

**Course content**

Understanding the role that technology plays in society requires knowledge and understanding from different scientific disciplines and perspectives. This course introduces key perspectives on technology, science, innovation and societal and environmental change. Through historical and contemporary examples, students will become acquainted with how technology has been understood through time and from different vantage points.

The links between technology, science and society can be understood from different scientific perspectives and methods – from the natural sciences, medicine, social sciences, and humanities. The course introduces you to how these divisions have developed historically, how the social sciences differ from other disciplines, and how different types of knowledge can complement each other in the study of society and technology.

The course introduces you to the fundamentals of scientific thinking and analysis, with a particular focus on the social sciences. It shows how the social sciences ask questions about technology, nature and society, discusses the difference between various types of scientific analysis, such as interpretative and explanatory approaches, and between normative and descriptive reasoning.

The course will also make you familiar with some of the fundamental tools that you will rely on in your further studies. This includes reading and writing academic texts, developing your understanding and writing through both independent study and collaborative work, identify and critically assess relevant literature and data sources, and use English as a working language.

It also provides you with skills in critical thinking, particularly about the role of experts in democratic governance, and introduces you to questions about values, ethics and responsibility in science, technology and innovation.

**Learning outcome**

Having completed this course, you will

Knowledge

- Be familiar with key social science perspectives on society, nature and technology, and be able to discuss their origins, similarities and differences
- Be able to discern between different types of social-scientific questions, methods and analyses, and between those of the social sciences and other academic disciplines

- Be familiar with the historical development of academic knowledge production, institutions like the University, and the role of academic research in society
- Have broad knowledge of ideas about scientific objectivity, value-neutrality, situated knowledge, and responsible research and innovation

Skills

- Be able to identify relevant research problems related to technology, innovation and society, and to discuss different ways to investigate and analyse them
- Be able to identify relevant academic literature for a given topic, cite it correctly, and critically assess the validity of different sources
- Know how to read, summarise and write academic texts
- Have experience with actively participating in academic discussions, giving and receiving feedback, and adjusting your work according to feedback from others
- Be able to discuss methodological and ethical considerations related to your own and others' research
- Be able to discuss normative questions regarding technology and social and environmental change

General competences

- Be able to reflect on fundamental questions in the social sciences and critically assess knowledge from different scientific traditions
- Know how to reflect on the limitations of scientific expertise, and the relationship between expertise and democracy
- Be able to use English as a working language, both written and orally

**Credits**

10 ECTS

**Teaching**

Teaching will be based on lectures and seminar groups, with mandatory participation in at least five seminars. The seminars will include two mandatory written assignments and a mandatory oral presentation.

**Examination**

4 hour school exam. Mandatory participation in seminars and related assignments is a prerequisite for sitting the exam.

Grades are awarded on a scale from A to F, where A is the best grade and F is a fail.

# TIK2000 Innovation and society (existing course)

**Course content**

The introductory course 'Innovation and Society' explores the concept of innovation and how it affects the economy and society. The goal is to help students understand innovation and their role in it in relation to their respective academic backgrounds. The course examines how innovation happens in different organizations, such as public, private, and community-based, and introduces important tools for analyzing innovation processes. It also offers perspectives on how innovation is a systemic phenomenon, and how it can address the grand challenges of our time.

Through activities like company visits, case studies, and interdisciplinary collaboration, students will enhance their analytical skills, creativity, critical thinking, and presentation abilities. The course also allows students to engage in teamwork, student-led seminars and to relate innovation to their own fields of study.

**Learning outcome**

Knowledge

The students acquire a basic understanding of

- What innovation is and how it can take different forms
- How innovation impacts the economy and society
- How innovation is dependent on and conditioned by social and technological factors
- How innovation occurs through an interplay between different types of actors
- How innovation takes place in different types of organizations
- How policies, infrastructures and institutions may affect and condition innovation
- How innovation can contribute to solving contemporary societal challenges

Skills

- Identify and describe the role of innovation in economic growth and societal change
- Analyse contemporary innovative societal phenomena
- Critical thinking for innovative problem-solving and decision-making
- Apply theoretical concepts onto real life innovative cases
- Experience from working in interdisciplinary teams
- How innovation can be studied

General competences

- Understanding how your educational background can contribute to innovation in working life
- Ability to present your own work and give constructive feedback
- Experience with working, presenting and discussing in English
- Experience with group work
- Being able to interact with representatives from working life

**Credits**

10 ECTS

**Teaching**

Teaching will be based on a mix of lectures, field trips, workshops and seminars. Students are expected to actively participate in the teaching through discussions and group assignments.

An attendance of at least 80% of teaching and seminars is mandatory.

Completion of individual written assignments and participation in group-based workshops during the term is a requirement to complete final examination.

**Examination**

The course has a portfolio exam format where each student includes selected works and submissions in the course. The portfolio should comprise a number of written individual assignments and a group-based oral presentation where the students are expected to demonstrate their understanding of key concepts from the course.

The written individual assignments involve applying innovation theory onto selected cases and individual reflection notes where the students reflect on how their disciplinary background relates to innovation.

Grades are awarded on a pass/fail scale.

UNIVERSITETET
I OSLO

**Notat**

**6**

# TIK2100 Science, technology and democracy: Introduction to STS

**Course content**

This introductory course in Science and Technology Studies (STS) examines the relationship between science, technology and democracy. STS is an interdisciplinary field that uses approaches from sociology, anthropology and the humanities to study how scientific knowledge, technologies, and material objects continuously blurs the boundaries between society, nature, and politics.

How does science and technology affect human and nonhuman life? What is the role of scientific expertise in policymaking? How do different forms of governance affect conditions for good science? How do digital technologies and infrastructures impact democratic participation? Why do some sciences and technologies create controversy, and how – and for whom – are controversies managed and solved?

These are examples of questions that you will work on in the course, in groups and individually. Through classical and contemporary theories and methods, you will learn to analyse the practices and procedures of science and democracy, and the challenges and opportunities for democratic participation and governance in a world shaped by science and technology.

You will be introduced to and work on case studies related to urgent topics such as climate change, loss of biodiversity, pandemic preparedness, gene-editing technologies, artificial intelligence, and social justice. You will also engage with important theoretical work in STS, including approaches such as co-production, material semiotics, and feminist STS.

**Learning outcome**

Knowledge

You will acquire a broad understanding of

- Key theories and methods in Science and Technology Studies (STS)
- How scientific knowledge production affects politics and societal change, and how societal and political conditions affect knowledge production
- How controversies around science and technologies emerge and are managed in democratic societies
- How ethical issues and value conflicts impact scientific and technological development

Skills

You will acquire basic skills in

- Critical thinking around the relationship between science, technology and democracy.
- Mapping and analysing scientific and societal controversies
- Identifying and describing value conflicts around knowledge, facts, and politics.
- Working with STS approaches in contemporary cases.

General competences

You will gain

- Experience from working, presenting and discussing in English
- Experience with mapping controversies and processes of problem-solving

**Credits**

10 ECTS

**Teaching**

Teaching will be based on a mix of lectures, field visits, workshops and seminars. Students are expected to actively participate in the teaching through discussions and group assignments.

An attendance of at least 80% of teaching and seminars is mandatory.

Completion of individual written assignments and participation in group-based workshops during the term is a requirement to complete final examination.

**Examination**

The course has a portfolio exam format where each student includes selected works and submissions in the course. The portfolio should comprise written individual assignments and a group-based oral presentation where the students are expected to demonstrate their understanding of key concepts from the course.

The written individual assignments involve applying STS theory onto selected cases and individual reflection notes where the students reflect on how their disciplinary background relates to innovation.

Grades are awarded on a scale from A to F, where A is the best grade and F is a fail.

# TIK1010 Qualitative methods (new course)

*(Note: The course will have a 10 ECTS overlap with SVMET1010 and STV1010.)*

**Course content**

This course offers students a basic introduction to qualitative methods in the social sciences. The course will provide students with a foundational understanding of the nature of qualitative research and give practical experience in designing and performing qualitative research. Particular attention will be given to key methods in innovation studies and Science and Technology Studies (STS).

The course is organized around four related topics:

- An introduction to qualitative methods and analysis in social sciences
- An introduction to empirical research, including how to formulate research questions, design research projects, collect and analyse data and report results
- An introduction to different qualitative methods such as interviews, field work, and document analysis, and how to use case studies to address broader research questions
- An introduction to research ethics for students

Students will work with examples of research design and methods taken from the fields of innovation studies and STS. They will also gain experience in formulating their own research questions and choose appropriate methods to study questions about technology, innovation and societal change.

**Learning outcome**

Having completed the course, the students will have acquired:

Knowledge

- knowledge on what qualitative research methods are, how they work and what their uses are.
- knowledge about research design, data collection and analysis in qualitative research
- a basic understanding of key qualitative methods, such as interviews, field work and document analysis
- knowledge about how qualitative methods are applied in STS and innovation studies
- knowledge about research ethics for students

Skills

- ability to formulate research questions
- ability to design a qualitative study and select appropriate methods to address their research questions, so that research questions, data collection and analysis are well integrated
- ability to collect and analyse data using specific methods.

General competences

- an understanding of how qualitative methods are used to generate knowledge about societal phenomena
- an understanding of the distinctiveness of different qualitative methods and their strengths and weaknesses
- an understanding of the importance of research integrity and ethical principles in research

**Credits**

10 ECTS

**Teaching**

The course will be a mix of lectures and obligatory group work where students will gain practical experience with qualitative methods.

**Examination**

The exam will be a 4-hour school exam where your understanding about qualitative methods is tested.

You are expected to use your practical skills and competencies in methods in your work with the bachelor thesis in year three.

Grades are awarded on a scale from A to F, where A is the best grade and F is a fail.

# TIK2101 From science to action (existing course)

*(Note: The learning outcomes of this course are scheduled to be revised after the spring semester of 2026, and will be updated to avoid overlap with TIK2100.)*

**Course content**

Why is it that we know so much about climate change and other pressing sustainability challenges, but it is still so hard to do something about them? How does scientific knowledge matter when decisions are made in politics or industry, and how can different forms of knowledge be translated into political action for a more sustainable world? How has knowledge from the natural sciences, economics and other disciplines shaped our understanding of issues such as climate change and biodiversity loss, and how can we broaden the knowledge base and foster interdisciplinary collaboration?

This course examines the role of science and knowledge more broadly in efforts to achieve a more sustainable future. It introduces different perspectives on how scientific knowledge impacts society and the role that various types of knowledge play in shaping the politics of sustainability. The course also provides students the opportunity to critically reflect on how their own disciplinary training may contribute to sustainability, and to gain practical experience with collaboration across disciplinary boundaries.

**Learning outcome**

Knowledge

- An overview of key theoretical approaches to understanding the role of scientific knowledge in society
- A general understanding of how different forms of knowledge have shaped societal responses to key sustainability challenges

Skills

- Practical experience with interdisciplinary collaboration and with presenting your disciplinary competence to others

General competences

- Understanding of how various forms of expertise are used in decision-making in public and private institutions
- Ability to reflect on the role of your own disciplinary training in achieving sustainability

**Credits**

5 ECTS

**Teaching**

Teaching will consist of lectures, field visits and seminars.

There will be at least one mandatory work requirement in the form of a presentation or written note in connection to the seminars.

**Examination**

The examination will consist of a 72 hour home exam. Grades are awarded on a pass/fail scale.

# TIK2111 Innovation for sustainability transitions (existing course)

**Course content**

Innovation is an important force for change, and is seen as crucial for achieving a more sustainable future. Innovations of different forms may play an important role in sustainability transitions, but innovations are embedded in social, cultural and economic systems that may be both conducive and barriers to change. To understand sustainability transitions, one needs to understand the complex relationships between technology and society. This course will introduce you to different sustainability transitions perspectives, methods and cases of sustainability transitions in different sectors and areas of society.

**Learning outcome**

In this course, students will develop an understanding of how innovation may be an important part of how we may handle sustainability and transition to a carbon neutral society. Specifically, in this course students will learn to

- understand innovation as a system made up of both technological, social and economic factors
- discuss how novel technologies, solutions, understandings, and practices can promote a transition to a sustainable and carbon neutral society, and also about the many barriers that exists and how we can work to overcome some of them.
- apply methodological and conceptual tools to analyse innovations for sustainability transitions
- apply interdisciplinary understanding to analyse cases and problems
- develop skills to critically reflect and discuss both promises and shortcomings of innovation to meet sustainability challenges.

**Credits**

5 ECTS

**Teaching**

Lectures and group work/seminars.

**Examination**

Portfolio exam consisting of oral group presentation and individual reflection note.

Grades are awarded on a scale from A to F, where A is the best grade and F is a fail.

# TIK2201 Innovation in the life sciences and social change (existing course)

**Course content**

Innovations with a basis in the life sciences is a major component in societal change, in medicine and health and economic development. The life sciences are not only a source of societal change. The disciplines related to this field are constantly undergoing innovations that transform life in the life sciences and the very making of science.

Through this course you will learn about innovation-life science relations with a focus upon this twin side of the relation: the role of the life sciences in different domains of society, and the life and work at the inside of the life sciences. The lectures will draw on in-depth discussions of concrete cases from key domains in the life sciences. You will learn about how the life sciences have changed over time and learn how our universities and the society more broadly have fostered and supported an innovation and entrepreneur-oriented way of living and working. The course combines field visits, lectures, case studies, and group work.

**Learning outcome**

Knowledge

- A broad understanding of what the life sciences is and the role of innovation in these fields
- An understanding of the historical, social and political contexts for the life sciences
- Familiarity with different theoretical perspectives on science and innovation in society.

Skills

- Practical experience with interdisciplinary collaboration and with presenting your disciplinary competence to others
- Critical thinking on the role of science in society, economy and policy.

**Credits**

5 ECTS

**Teaching**

Lectures.

**Examination**

Portfolio exam consisting of written submissions and oral presentation(s).
Grades are awarded on a pass/fail scale.

# TIK2015 AI and the Politics of Technology (existing course)

*(Note: The learning outcomes of this course are scheduled to be revised after the spring semester of 2026, and will be updated to avoid overlap with TIK2100.)*

**Course content**

AI and digital technologies have taken on key roles in contemporary societies. But how do technologies shape politics and engage publics, and what are the controversies and effects as they are put to use? What are the insights offered by different disciplines and research fields? This course will introduce you to social studies of the AI and digitalization and, more generally, the interplay between technology, infrastructures, and publics. This will include

- an introduction to social studies on AI and the digital;
- conceptual approaches to AI in Science and Technology Studies (STS);
- empirical cases and issues, such as governance of AI technologies, sustainability of digital infrastructures, fairness in predictive modelling.

Lectures and workshops will equip students with basic tools to understand social studies of digitalization and AI technologies.

**Learning outcome**

Knowledge:

- Insights on the interplay of technology, politics, and publics
- A general understanding of different forms of expertise and the politics of knowledge
- Knowledge on the history and social studies of digitalization and AI

Skills:

- Communication skills across different knowledges, approaches, and formats
- Introducing your own disciplinary approach to others
- Practical experience with multimodal presentations

Competencies:

- Ability to find and engage with STS literature on AI and digitalization
- Ability to understand and situate different forms of knowledge
- Ability to reflect on the role of one's own disciplinary training and background

**Credits**

5 ECTS

**Teaching**

Teaching will consist of lectures, seminars, a field visit, and workshops.

**Examination**

Portfolio exam consisting of 1) an individual reflection note (due at the end of week 4) and 2) a curated multimodal group presentation (given in a final workshop 1-2 weeks after the lectures ended).

Grades are awarded on a pass/fail scale.

UNIVERSITETET
I OSLO

**Notat**

**16**

# TIK3000 Engaging the technological society (new course)

**Course content**

Technology shapes society, and society shapes technology. This has economic, social, and environmental consequences. Technological change brings major societal improvements, but it also gives rise to new and unforeseen problems. New and emerging technologies often provoke debate and controversy, and become issues for government to plan and regulate.

In this course, you will follow real-life cases ranging from the steam engine to artificial intelligence. You will learn to trace how technologies are shaped, adopted, debated, and regulated, and how to analyse them within a broad societal context.

This is a practice-oriented course where you will follow concrete cases and learn how to understand them through scholarly literature. By visiting the labs where new technologies are developed, as well as the offices where they are debated and regulated, you will gain insight into how various societal actors work with new and emerging technologies in practice. You will also learn how to locate relevant literature and engage with central texts related to the selected cases.

**Learning outcome**

Knowledge

- Knowledge of how key theoretical perspectives on technology can be used to map and analyse concrete cases
- Broad knowledge about where and how new technologies emerge and how they are put to use, based on historical as well as contemporary cases
- An understanding of the governmental system that shapes and regulates technologies
- An understanding of how technology relates to grand societal challenges such as sustainability, economic welfare and inequality

Skills

You will acquire skills to

- Map ongoing and historical cases of interactions between technology and society
- Navigate how technologies are managed and regulated in a democratic political system
- Locate and critically assess information about the social, economic and environmental effects of new and emerging technologies
- Relate contemporary debates to historical cases and analyse them in light of scholarly literature and theoretical concepts

- Participate in debates about contemporary challenges related to technology and its social, economic and environmental aspects

General competences

You will acquire the competency to

- Actively participate in teams of diverse expertise and present your competences to others
- Update your knowledge based on new research

**Credits**

10 ECTS

**Teaching**

Teaching consists of lectures, field visits and seminars. Active participation is expected, and seminar participation will be mandatory.

**Examination**

Portfolio exam based on hand-ins related to case studies.

Grades are awarded on a pass/fail scale.

# TIK3090 Bachelor thesis (new course)

**Course content**

In the bachelor thesis, you will focus on a topic of your own choice which allows you to explore how technology and society shape one another. You will work independently or in a small group, choose a research question and develop a relevant research design. The project can be based on qualitative methods, quantitative approaches, or a combination of methods appropriate to the chosen case.

You will learn how to design a thesis project, collect and analyse data, and connect it to relevant theories that you have come to know throughout the programme – including approaches from innovation studies and STS. You will also gain practical writing skills and learn to communicate your topic and findings clearly.

In addition to working independently on the thesis, the course is structured with seminars where you present your progress to other students in order to receive and give feedback. You will also receive supervision both individually and in groups throughout the process.

**Learning outcome**

Knowledge

- Insight into how independent academic analysis can be planned and executed
- Insight into the practice of academic authorship

Skills

- Independently formulate a research question that is relevant to the study of technology and/or innovation as social phenomena
- Design a thesis project, collect and analyse data, and connect it to relevant theories that you have come to know throughout the programme

General competences

- Independent writing according to academic standards
- Ability to reflect on scientific ideals and practice, and on ethical issues in scientific research

**Credits**

10 ECTS

**Teaching**

Obligatory seminar groups for collective supervision, in which students will present and receive feedback. These seminars include:

- An early evaluation based on a draft design note that explains the planned research question and design
- A mid-way evaluation based on a first draft of the thesis
- An oral presentation of the project

**Examination**

Bachelor thesis that includes:

- A self-formulated, researchable and clearly identified topic/research question
- A total length of 6,000-8,000 words
- A short synopsis (abstract) of about 200 words
- A description of and reflection on any use of generative language models in the work process
- If the thesis is submitted as a group work, a group contract that explains individual contributions and division of tasks
- Adherence to the formal requirements for thesis submission

Having carried out obligatory activities in the course is a prerequisite for submitting the thesis.

Grades are awarded on a scale from A to F, where A is the best grade and F is a fail.