



AALBORG UNIVERSITET

**STUDIEORDNING FOR
KANDIDATUDDANNELSEN I
TEKNOANTROPOLOGI - 2018 -
KØBENHAVN**

CAND.SCIENT.
KØBENHAVN

MODULER SOM INDGÅR I STUDIEORDNINGEN

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INTERDISCIPLINARY KNOWLEDGE PRODUCTION: ANALYSIS AND DISSEMINATION OF BSC KNOWLEDGE PRODUCTION AND TECHNOLOGY IN PRACTICE

2018/2019

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

The purpose of the pilot project is for students to acquire practical experience with collaborative group work that involves multiple disciplinary backgrounds. The pilot project will support students' abilities to identify and engage with challenges, barriers and potentials in Techno-Anthropological work across disciplines.

Students who complete the module can:

LEARNING OBJECTIVES

KNOWLEDGE

- explain competencies that fellow students bring into the Master's program
- communicate a scientific message in short
- explain differences between mono-disciplinary, multi-disciplinary, inter-disciplinary and trans-disciplinary
- present technical and socio-technical issues relevant for the study of technology in practice
- explain the Aalborg model for problem-based learning

SKILLS

- analyse professional domain practices in terms of their objectives
- identify interdisciplinary issues in technology development
- discuss Techno-Anthropology as an interdisciplinary area

COMPETENCES

- design, produce and present a scientific poster
- integrate different domain knowledge, paradigms and professional competencies into an inter-disciplinary research theme
- draft initiating problems relevant for the study of Technology in Practise from a socio-technical perspective

TYPE OF INSTRUCTION

Project work, supervisor and teacher feedback, lectures, classroom instructions, exercises, seminars, case analysis, reflection.

EXAM

EXAMS

| | |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name of exam | Interdisciplinary Knowledge Production: Analysis and Dissemination of BSc Knowledge Production and Technology in Practice |
| Type of exam | Active participation and/or written assignment Each course participant will: <input type="checkbox"/> produce a scientific poster communicating the results from their BSc project (individual) |

| | |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | <input type="checkbox"/> in a group write a 10 page essay with the title: An interdisciplinary research theme for the study of Technology in Practice and supplemented with a subtitle of the group's choice <input type="checkbox"/> present the individual poster and group essay in seminars |
| ECTS | 5 |
| Assessment | Passed/Not Passed |
| Type of grading | Internal examination |
| Criteria of assessment | The element is passed when all of these elements are approved by the supervisor. |

FACTS ABOUT THE MODULE

| | |
|----------------------------|---------------------------------------------------------------------------------------------------|
| Danish title | Tværfaglig vidensproduktion: Analyse og formidling af BSc vidensproduktion og teknologi i praksis |
| Module code | TBITANK18101 |
| Module type | Project |
| Duration | 1 semester |
| Semester | Autumn |
| ECTS | 5 |
| Language of instruction | English |
| Empty-place Scheme | Yes |
| Location of the lecture | Campus Aalborg, Campus Copenhagen |
| Responsible for the module | Lars Kørnøv Botin , Anne Marie Kanstrup |

ORGANISATION

| | |
|-------------|-----------------------------------------------------------|
| Study Board | Studyboard for Techno-Anthropology and Sustainable Design |
| Department | Department of Planning |
| Faculty | Technical Faculty of IT and Design |

TECHNOLOGY IN PRACTICE

2018/2019

PREREQUISITE/RECOMMENDED PREREQUISITE FOR PARTICIPATION IN THE MODULE

The course module is based upon knowledge acquired in the module Interdisciplinary Knowledge Production: Analysis and Dissemination of BSc Knowledge Production and Technology in Practise

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

The purpose of this project is to apply Techno-Anthropological methods to gain insight into a technology domain's key processes and to identify drivers and barriers for responsible innovation.

Students who complete the module can:

LEARNING OBJECTIVES

KNOWLEDGE

- explain principles and methods used in the development of technology in a selected technology domain
- explain selected qualitative research methods appropriate to the study of expert cultures in a specific technological domain
- explain historical and contemporary needs and uses of a specific technology in a specific domain.

SKILLS

- select scientific methods, tools and competencies appropriate for the study of a technological practise
- portray and critical evaluate the conceptual landscape of innovation in a technology domain
- identify expert cultures in a selected technology domain
- identify drivers and barriers for responsible technological innovations
- analyze technological design and innovation in terms of a) sustainability or b) risks, controversies, responsibilities and dilemmas

COMPETENCES

- plan and implement an analysis of technology in practice that includes the use of qualitative methods
- communicate complex technological knowledge and practice
- point out and reflect on societal problems related to the development of a selected technology in a specific domain
- make use of the diversities presented in the project group and reflect on the impact on the work processes in problem-based and project-oriented work
- critically reflect on own analysis

TYPE OF INSTRUCTION

Project work, supervisor feedback, seminars, reflection

EXAM

EXAMS

| | |
|--------------|------------------------------|
| Name of exam | Technology in Practice |
| Type of exam | Oral exam based on a project |
| ECTS | 10 |

| | |
|------------------------|------------------------------------------------|
| Assessment | 7-point grading scale |
| Type of grading | Internal examination |
| Criteria of assessment | Are stated in the Joint Programme Regulations. |

FACTS ABOUT THE MODULE

| | |
|----------------------------|----------------------------------------------------------------------------|
| Danish title | Teknologi i praksis |
| Module code | TBITANK18102 |
| Module type | Project |
| Duration | 1 semester |
| Semester | Autumn |
| ECTS | 10 |
| Language of instruction | English |
| Empty-place Scheme | Yes |
| Location of the lecture | Campus Aalborg, Campus Copenhagen |
| Responsible for the module | Lars Kørnøv Botin , Anne Marie Kanstrup |

ORGANISATION

| | |
|-------------|-----------------------------------------------------------|
| Study Board | Studyboard for Techno-Anthropology and Sustainable Design |
| Department | Department of Planning |
| Faculty | Technical Faculty of IT and Design |

TECHNO-ANTHROPOLOGICAL PROBLEMS AND THEORIES

2018/2019

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

Students who complete his module can:

LEARNING OBJECTIVES

KNOWLEDGE

- present and explain different anthropological, sociological and philosophical theories relevant for analysis and discussion of cases regarding the development of robust and socially responsible technology
- explain how discourses, institutions and professions have historically shaped the conceptual landscape of robust and socially responsible technological innovation
- describe the development processes in organisations, including central concepts as expertise, expert culture, power, ethics, responsibility, public understanding and design as an integral part of technology development

SKILLS

- analyse and evaluate cases dealing with robust and socially responsible technological innovation
- identify the problems, challenges and controversies in cases regarding technological innovation, development, implementation, assessment and use
- apply socio-technical theories in order to analyse emergent and controversial technological problems

COMPETENCES

- transfer knowledge and skills achieved in the module to suggest or discuss the opportunities for development of robust and socially responsible technological solutions

TYPE OF INSTRUCTION

Lectures, classroom instructions, exercises, seminars, case analysis, teacher feedback, reflection.

EXAM

EXAMS

| | |
|-----------------|----------------------------------------------|
| Name of exam | Techno-Anthropological Problems and Theories |
| Type of exam | Oral exam |
| ECTS | 10 |
| Assessment | 7-point grading scale |
| Type of grading | Internal examination |

FACTS ABOUT THE MODULE

| | |
|--------------|------------------------------------------|
| Danish title | Teknoantropologiske problemer og teorier |
| Module code | TBITANK18103 |

| | |
|----------------------------|----------------------------------------------------------------------------|
| Module type | Course |
| Duration | 1 semester |
| Semester | Autumn |
| ECTS | 10 |
| Language of instruction | English |
| Empty-place Scheme | Yes |
| Location of the lecture | Campus Aalborg, Campus Copenhagen |
| Responsible for the module | Lars Kørnøv Botin , Anne Marie Kanstrup |

ORGANISATION

| | |
|-------------|-----------------------------------------------------------|
| Study Board | Studyboard for Techno-Anthropology and Sustainable Design |
| Department | Department of Planning |
| Faculty | Technical Faculty of IT and Design |

TECHNOLOGICAL INNOVATION AND DESIGN

2018/2019

PREREQUISITE/RECOMMENDED PREREQUISITE FOR PARTICIPATION IN THE MODULE

The course module is based upon knowledge acquired in the module Technology in Practice (1st semester)

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

The aim of this module is for students to acquire experience with the application of theoretical and methodological knowledge, skills and competencies within the Techno-Anthropological repertoire to qualify the development or evaluation of an innovation process for design of a technology or a specific product.

Students who complete this module can:

LEARNING OBJECTIVES

KNOWLEDGE

- present theories of the interplay between innovation strategies and technology development, product design, and product evaluation by selected actors/user groups
- present theories and methods for analysis of the cultural or institutional context of technological product innovation in a technology domain
- present ethnographic or interventionist research methods of relevance to a specific technology design, product development or product evaluation

SKILLS

- draft a plan for how either an ethnographic study or an intervention study with an arranged situation of user involvement (e.g. a design game) may contribute to technology or product development or product evaluation
- independently develop and carry out a qualitative study design that can contribute with knowledge relevant to the development or evaluation of an innovation process for design of a technology or a specific product
- develop a technology domain specific controversy mapping as input to the problem analysis.
- develop a plan for facilitation and documentation of a design process

COMPETENCES

- reflect on how ethnographic and interventionistic approaches may facilitate interdisciplinary collaboration in technology and/or product design, development or evaluation with in a technology domain
- reflect on potential controversies and ethical dilemmas that may arise during product development or implementation.

TYPE OF INSTRUCTION

Project work, supervisor feedback, seminars, reflection

EXAM

EXAMS

| | |
|--------------|-------------------------------------|
| Name of exam | Technological Innovation and Design |
| Type of exam | Oral exam based on a project |
| ECTS | 15 |

| | |
|------------------------|---------------------------------------------------|
| Assessment | 7-point grading scale |
| Type of grading | External examination |
| Criteria of assessment | Are described in the Joint Programme Regulations. |

FACTS ABOUT THE MODULE

| | |
|----------------------------|----------------------------------------------------------------------------|
| Danish title | Teknologisk innovation og design |
| Module code | TBITANK18201 |
| Module type | Project |
| Duration | 1 semester |
| Semester | Spring |
| ECTS | 15 |
| Language of instruction | English |
| Empty-place Scheme | Yes |
| Location of the lecture | Campus Aalborg, Campus Copenhagen |
| Responsible for the module | Lars Kørnøv Botin , Anne Marie Kanstrup |

ORGANISATION

| | |
|-------------|-----------------------------------------------------------|
| Study Board | Studyboard for Techno-Anthropology and Sustainable Design |
| Department | Department of Planning |
| Faculty | Technical Faculty of IT and Design |

FACILITATION OF DESIGN PROCESSES AND TECHNOLOGICAL INNOVATION

2018/2019

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

Students who complete this module can:

LEARNING OBJECTIVES

KNOWLEDGE

- explain different technological innovation concepts, -methods, -tools, -perspectives and -strategies
- explain how innovation and change processes can affect design of technology or design of products
- present principles and methods for developing user-oriented and user-involving design processes
- explain theories of user-designer relations

SKILLS

- draft an actor oriented innovation and design strategy
- plan and conduct a user/actor-involving design game or workshop
- identify appropriate tools, materials and techniques for facilitation and documentation design processes
- produce a mock-up, prototype, scenario, sketch or other kind of material intermediary outcome of a design process

COMPETENCES

- plan, facilitate and organize design processes
- communicate the results of the innovation and design process and the results of the design game or workshop

TYPE OF INSTRUCTION

Lectures, classroom instructions, exercises, seminars, case analysis, teacher feedback, reflection.

EXAM

EXAMS

| | |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name of exam | Facilitation of Design Processes and Technological Innovation |
| Type of exam | Active participation and/or written assignment Three written assignments must be completed, handed in and approved by the module coordinator during the semester. |
| ECTS | 10 |
| Assessment | Passed/Not Passed |
| Type of grading | Internal examination |
| Criteria of assessment | As described in the Joint Programme Regulations. |

FACTS ABOUT THE MODULE

| | |
|--------------|-----------------------------------------------------------|
| Danish title | Facilitering af designprocesser og teknologisk innovation |
|--------------|-----------------------------------------------------------|

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|----------------------------|---------------------------------------------------------------------|
| Module code | TBITANK18202 |
| Module type | Course |
| Duration | 1 semester |
| Semester | Autumn |
| ECTS | 10 |
| Language of instruction | English |
| Empty-place Scheme | Yes |
| Location of the lecture | Campus Aalborg, Campus Copenhagen |
| Responsible for the module | Joakim Juhl , Lone Stub Petersen |

ORGANISATION

| | |
|-------------|-----------------------------------------------------------|
| Study Board | Studyboard for Techno-Anthropology and Sustainable Design |
| Department | Department of Planning |
| Faculty | Technical Faculty of IT and Design |

MAPPING CONTROVERSIES

2018/2019

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

Students who complete the module have:

LEARNING OBJECTIVES

KNOWLEDGE

- explain theories about contested knowledge, public knowledge controversies and controversy mapping
- explain theories about the learning potentials and democratic potentials of controversies

SKILLS

- apply a range of digital/qualitative research tools such as web crawls or bibliometric surveys to trace out the way in which issues become controversial
- use dynamic visualisation tools to map controversies in an accessible manner
- produce a website or a similar digital product that enables participants in a controversy to 'navigate' the complexities of the issue
- work collaboratively with large amounts of heterogeneous data
- conduct visual network analysis

COMPETENCES

- approach the interplay between science and politics from a practical perspective
- provide a navigational instrument to the participants in a controversy
- develop and provide a narrative account of the results of the controversy mapping

TYPE OF INSTRUCTION

Lectures, classroom instructions, exercises, seminars, case analysis, teacher feedback, reflection.

EXAM

EXAMS

| | |
|------------------------|----------------------------------------------------------------------------------------------------------------|
| Name of exam | Mapping Controversies |
| Type of exam | Oral exam Oral examination in which visualisations of controversies (homepages) are presented and defended. |
| ECTS | 5 |
| Assessment | 7-point grading scale |
| Type of grading | Internal examination |
| Criteria of assessment | Are stated in the Joint Programme Regulations. |

FACTS ABOUT THE MODULE

| | |
|--------------|---------------------------------------------|
| Danish title | Kortlægning af offentlige videnkontroverser |
|--------------|---------------------------------------------|

| | |
|----------------------------|---------------------------------------------------------------------|
| Module code | TBITANK18203 |
| Module type | Course |
| Duration | 1 semester |
| Semester | Autumn |
| ECTS | 5 |
| Language of instruction | English |
| Empty-place Scheme | Yes |
| Location of the lecture | Campus Aalborg, Campus Copenhagen |
| Responsible for the module | Joakim Juhl , Lone Stub Petersen |

ORGANISATION

| | |
|-------------|-----------------------------------------------------------|
| Study Board | Studyboard for Techno-Anthropology and Sustainable Design |
| Department | Department of Planning |
| Faculty | Technical Faculty of IT and Design |

REFLEXIVE PROJECT DESIGN

2018/2019

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

Students who complete the module can:

LEARNING OBJECTIVES

KNOWLEDGE

- present key explorative, participatory and experimental project-types
- explain theories, methods and perspectives on reflexive project work
- present theories and cases about organisations and professional conduct

SKILLS

- draft a study or project proposal with a reflexive component that is relevant to the project's organizational and institutional context
- identify appropriate concepts, methods and cases for analyzing their own work in professional organizations

COMPETENCES

- reflect critically upon their own role in relation to the field
- argue for choices in research or project design that take into account their own role within the field's organizational and institutional setup

TYPE OF INSTRUCTION

Lectures, classroom instructions, exercises, seminars and workshops, case analysis, teacher feedback, reflection.

EXAM

EXAMS

| | |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name of exam | Reflexive Project Design |
| Type of exam | Active participation and/or written assignment a number of written assignments must be completed, handed in and approved by the module coordinator during the semester. |
| ECTS | 5 |
| Assessment | Passed/Not Passed |
| Type of grading | Internal examination |
| Criteria of assessment | Are stated in the Joint Programme Regulations. |

FACTS ABOUT THE MODULE

| | |
|--------------|--------------------------------|
| Danish title | Refleksion over projekt-design |
| Module code | TBITANK18304 |
| Module type | Course |

| | |
|----------------------------|----------------------------------------------------------------------------|
| Duration | 1 semester |
| Semester | Autumn |
| ECTS | 5 |
| Language of instruction | English |
| Empty-place Scheme | Yes |
| Location of the lecture | Campus Aalborg, Campus Copenhagen |
| Responsible for the module | Lars Kørnøv Botin , Anne Marie Kanstrup |

ORGANISATION

| | |
|-------------|-----------------------------------------------------------|
| Study Board | Studyboard for Techno-Anthropology and Sustainable Design |
| Department | Department of Planning |
| Faculty | Technical Faculty of IT and Design |

MASTER'S THESIS

2018/2019

PREREQUISITE/RECOMMENDED PREREQUISITE FOR PARTICIPATION IN THE MODULE

The module is based upon knowledge acquired in 1st – 3rd semester

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

During the Master's thesis the student will carry out a Techno-Anthropological research project following good academic and professional practice that directly or in-directly contributes to the development of robust and socially responsible solutions to societal challenges.

Students who complete the module can:

LEARNING OBJECTIVES

KNOWLEDGE

- explain and justify the design of the project
- explain the socio-technical theories that constitutes the projects' theoretical resources
- explain and justify the project's empirical methods, e.g. qualitative, interactional, interventional or ethnographic methods
- explain central technical or scientific processes within the chosen theme or field, e.g. key processes of scientific and technological development, research strategies, innovations, institutional framework, industrial dynamics, political regulation and knowledge controversies
- explain central elements from the technical literature relevant to the addressed theme or field.

SKILLS

- conduct a project that demonstrates competent application of interactive, interventional, experimental, analytical or ethnographic methods.
- conduct a project that contributes to the development of robust and socially responsible solutions to societal challenges, e.g. by supporting transformation of technical possibilities, by facilitating interdisciplinary collaboration, or by generating new knowledge about complex social, societal or ethical implications of technologies
- identify and present the projects' premises, analytical strategy, results and possible implications.

COMPETENCES

- initiate and lead interdisciplinary collaboration and assume professional responsibility
- evaluate and account for the interdisciplinary aspects of analyses that have been conducted and solutions that were proposed
- make general conclusions on the basis of the work produced and in response to thematic and theoretical literature

TYPE OF INSTRUCTION

Project work, supervisor feedback, seminars, reflection

EXAM

EXAMS

| | |
|--------------|------------------------------|
| Name of exam | Master's Thesis |
| Type of exam | Oral exam based on a project |

| | |
|------------------------|------------------------------------------------|
| ECTS | 30 |
| Permitted aids | |
| Assessment | 7-point grading scale |
| Type of grading | External examination |
| Criteria of assessment | Are stated in the Joint Programme Regulations. |

FACTS ABOUT THE MODULE

| | |
|----------------------------|----------------------------------------------------------------------------|
| Danish title | Kandidatspeciale |
| Module code | TBITANK18401 |
| Module type | Project |
| Duration | 1 semester |
| Semester | Spring |
| ECTS | 30 |
| Language of instruction | English |
| Empty-place Scheme | Yes |
| Location of the lecture | Campus Copenhagen |
| Responsible for the module | Lars Kørnøv Botin , Anne Marie Kanstrup |

ORGANISATION

| | |
|-------------|-----------------------------------------------------------|
| Study Board | Studyboard for Techno-Anthropology and Sustainable Design |
| Department | Department of Planning |
| Faculty | Technical Faculty of IT and Design |

ETHNOGRAPHIC METHODS

2018/2019

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

Students who complete this module can:

LEARNING OBJECTIVES

KNOWLEDGE

- explain selected anthropological and cultural theories as a basis for empirical studies of technology and culture.
- present exemplary cases of techno-anthropological field studies
- explain ethnographic fieldwork as a mode of knowledge production

SKILLS

- compare methodological approaches within anthropology and ethnography
- conduct qualitative interviews and use different coding schemes
- plan and carry out participant observation
- apply anthropological and cultural theories to reflect on and analyze cases and empirical material

COMPETENCES

- choose and justify the relevance of qualitative data collection methods in relation to a study of technology
- discuss and account for analytical opportunities and challenges in relation to social and cultural analysis of cases of scientific or technological development processes.

TYPE OF INSTRUCTION

Lectures, classroom instructions, exercises, seminars, case analysis, teacher feedback, reflection.

EXAM

EXAMS

| | |
|------------------------|--------------------------------------------------|
| Name of exam | Ethnographic Methods |
| Type of exam | Oral exam |
| ECTS | 5 |
| Assessment | 7-point grading scale |
| Type of grading | Internal examination |
| Criteria of assessment | Are described in the Joint Programme Regulation. |

FACTS ABOUT THE MODULE

| | |
|--------------|----------------------|
| Danish title | Etnografiske metoder |
| Module code | TBITANK18104 |
| Module type | Course |
| Duration | 1 semester |

| | |
|----------------------------|----------------------------------------------------------------------------|
| Semester | Autumn |
| ECTS | 5 |
| Language of instruction | English |
| Empty-place Scheme | Yes |
| Location of the lecture | Campus Aalborg, Campus Copenhagen |
| Responsible for the module | Lars Kørnøv Botin , Anne Marie Kanstrup |

ORGANISATION

| | |
|-------------|-----------------------------------------------------------|
| Study Board | Studyboard for Techno-Anthropology and Sustainable Design |
| Department | Department of Planning |
| Faculty | Technical Faculty of IT and Design |

ECOLOGICAL ECONOMICS

2018/2019

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

Students who complete the module can:

LEARNING OBJECTIVES

KNOWLEDGE

- explain the key concepts and theories of ecological economics
- explain the foundation of ecological economics in thermodynamics and ecology
- explain the main differences between mainstream and ecological economic perspectives
- explain the common roots and shared fields of ecological economics, ecological anthropology and political ecology

SKILLS

- apply ecological economic concepts in analyses of relations between economic growth, energy and environment
- compare and assess different approaches to valuation and decision making in relation to concrete analyses of environmental problems
- analyse the relationship between institutional frameworks and environmental problems and discuss the possibilities for governance

COMPETENCES

- interpret how different economic paradigms are reflected in political strategies and measures to address economic and environmental crises
- cooperate with professionals from different disciplinary backgrounds on sustainability strategies and mediate between different patterns of thought.

TYPE OF INSTRUCTION

The classes include a combination of lectures, group work, exercises and student presentations. Students have to do the readings before each class and to prepare short presentations or interventions. The written work that forms the basis for the assessment must be done during the course as well.

EXAM

EXAMS

| | |
|------------------------|---------------------------------------------------|
| Name of exam | Ecological Economics |
| Type of exam | Oral exam |
| ECTS | 5 |
| Assessment | 7-point grading scale |
| Type of grading | Internal examination |
| Criteria of assessment | Are described in the Joint Programme Regulations. |

FACTS ABOUT THE MODULE

| | |
|--------------|-------------------|
| Danish title | Økologisk økonomi |
|--------------|-------------------|

Studieordning for kandidatuddannelsen i teknoantropologi - 2018 - København

| | |
|----------------------------|----------------------------------------------------------------------------|
| Module code | TBITANK18105 |
| Module type | Course |
| Duration | 1 semester |
| Semester | Autumn |
| ECTS | 5 |
| Language of instruction | English |
| Empty-place Scheme | Yes |
| Location of the lecture | Campus Copenhagen |
| Responsible for the module | Lars Kørnøv Botin , Anne Marie Kanstrup |

ORGANISATION

| | |
|-------------|-----------------------------------------------------------|
| Study Board | Studyboard for Techno-Anthropology and Sustainable Design |
| Department | Department of Planning |
| Faculty | Technical Faculty of IT and Design |

EMERGING AND CUTTING EDGE SCIENCE AND TECHNOLOGY

2018/2019

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

Students who complete this module can:

LEARNING OBJECTIVES

KNOWLEDGE

- account for selected, sectorial, cutting-edge and emerging technological innovations
- explain the role of the new technologies in the advancement of science
- account for how technological problems and advances often create a demand for new scientific knowledge
- discuss the societal relevance of particular emerging technologies
- account for the potential risks of particular cutting-edge technologies

SKILLS

- analyse how cutting edge science suggests new kinds of behaviors, including those not imagined before that lead to new technological trends and developments.
- evaluate how the availability of new technology sparks scientific advancement
- methodologically analyse how technology solves practical problems and serves human needs and also creates new problems and needs

COMPETENCES

- analyse emerging technological products and processes
- communicate with scientist, technicians, engineers and technologists using moderately technical terminology
- identify and promote technological innovations for sustainable transitions

TYPE OF INSTRUCTION

A combination of lectures and workshops that include selected presentations from researchers and developers in science and technology that are representative of cutting-edge and relevant technological innovations.

EXAM

EXAMS

| | |
|------------------------|---------------------------------------------------|
| Name of exam | Emerging and Cutting Edge Science and Technology |
| Type of exam | Oral exam |
| ECTS | 5 |
| Assessment | 7-point grading scale |
| Type of grading | Internal examination |
| Criteria of assessment | Are described in the Joint Programme Regulations. |

FACTS ABOUT THE MODULE

| | |
|----------------------------|----------------------------------------------------------------------------|
| Danish title | Ny banebrydende videnskab og teknologi |
| Module code | TBITANK18106 |
| Module type | Course |
| Duration | 1 semester |
| Semester | Autumn |
| ECTS | 5 |
| Language of instruction | English |
| Empty-place Scheme | Yes |
| Location of the lecture | Campus Aalborg, Campus Copenhagen |
| Responsible for the module | Lars Kørnøv Botin , Anne Marie Kanstrup |

ORGANISATION

| | |
|-------------|-----------------------------------------------------------|
| Study Board | Studyboard for Techno-Anthropology and Sustainable Design |
| Department | Department of Planning |
| Faculty | Technical Faculty of IT and Design |

DEVELOPMENT PROJECT: ACTION RESEARCH

2018/2019

PREREQUISITE/RECOMMENDED PREREQUISITE FOR PARTICIPATION IN THE MODULE

The course module is based upon knowledge acquired in the module Technological Innovation and Design

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

During this module students will conduct research activities that support and qualify technological transformation by involving affected people. Students will gain experiences with different action research methodologies, and get familiar with how they can be utilised in a professional context. Students are to plan and execute a development project and thereby promote, test and evaluate responsible technological innovation; experimentation with new and emerging technologies; or organizational development in technology intensive contexts.

Upon completion of the module, the student can:

LEARNING OBJECTIVES

KNOWLEDGE

- discuss the phases of action research, including those of problem identification, planning, action, observation, and reflection
- explain classic and contemporary approaches in action research work, including different definitions, level of participation/ involvement and underpinning assumptions
- describe responsible technological innovation; experimentation with new and emerging technologies; or organizational development in technology intensive contexts

SKILLS

- plan, execute and evaluate action research methods in a professional setting
- account for and analyse results from the project's action research methodology
- present reflections on how action research can relate to responsible technological innovation; experimentation with emerging technologies; or organizational development in technology intensive contexts on a practical and theoretical level.

COMPETENCES

- assess potentials and limitations of various action research approaches, including those related to the quality criteria for and the ethical dimensions of action research.
- facilitate participation in action research processes and in responsible technological innovation; experimenting with emerging technologies; or organizational development in technology intensive contexts.
- evaluate how action research approaches can help to create new practices in scientific and technological research and development.

TYPE OF INSTRUCTION

Project work, supervisor feedback, seminars and workshops, reflection

EXAM

EXAMS

| | |
|--------------|--------------------------------------|
| Name of exam | Development Project: Action Research |
|--------------|--------------------------------------|

| | |
|------------------------|---------------------------------------------------|
| Type of exam | Oral exam based on a project |
| ECTS | 25 |
| Assessment | 7-point grading scale |
| Type of grading | Internal examination |
| Criteria of assessment | Are described in the Joint Programme Regulations. |

FACTS ABOUT THE MODULE

| | |
|----------------------------|----------------------------------------------------------------------------|
| Danish title | Udviklingsprojekt: Aktionsforskning |
| Module code | TBITANK18301 |
| Module type | Project |
| Duration | 1 semester |
| Semester | Autumn |
| ECTS | 25 |
| Language of instruction | English |
| Empty-place Scheme | Yes |
| Location of the lecture | Campus Aalborg, Campus Copenhagen |
| Responsible for the module | Lars Kørnøv Botin , Anne Marie Kanstrup |

ORGANISATION

| | |
|-------------|-----------------------------------------------------------|
| Study Board | Studyboard for Techno-Anthropology and Sustainable Design |
| Department | Department of Planning |
| Faculty | Technical Faculty of IT and Design |

INQUIRY PROJECT: ETHNOGRAPHIC FIELDWORK

2018/2019

PREREQUISITE/RECOMMENDED PREREQUISITE FOR PARTICIPATION IN THE MODULE

The course module is based upon knowledge acquired in the module Technological Innovation and Design

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

The purpose of this project module is to conduct ethnographic fieldwork to gain insight into scientific and technological practices within a chosen technology domain, and to liaise ethnographic fieldwork to technological product / process development or testing.

Students who complete the module can

LEARNING OBJECTIVES

KNOWLEDGE

- identify methods and theories that support studies of scientific and technological practices
- explain the methods of ethnographic fieldwork, including participant observation and the use of field notes and interviews
- explain quality criteria of ethnographic methods and anthropological knowledge production

SKILLS

- plan and carry out ethnographic fieldwork
- discuss how the project's fieldwork build upon the student(s)' own disciplinary background(s)
- liaise ethnographic fieldwork to technological product / process development or testing
- liaise ethnographic practice with theoretical insight specific to technological product / process development or testing

COMPETENCES

- on the basis of ethnographic methods assess practical problems associated with technological product / process development or testing
- assess potentials and limitations of various ethnographic approaches, including those related to the validity of ethnographic methods as well as to the ethical dimensions of ethnographic work
- evaluate how socio-technical/anthropological theories and ethnographic methods can help create new practices in scientific and technological research and development

TYPE OF INSTRUCTION

Project work, supervisor feedback, seminars, reflection

EXAM

EXAMS

| | |
|--------------|-----------------------------------------|
| Name of exam | Inquiry Project: Ethnographic Fieldwork |
| Type of exam | Oral exam based on a project |
| ECTS | 25 |
| Assessment | 7-point grading scale |

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|------------------------|------------------------------------------------|
| Type of grading | External examination |
| Criteria of assessment | Are stated in the Joint Programme Regulations. |

FACTS ABOUT THE MODULE

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|----------------------------|----------------------------------------------------------------------------|
| Danish title | Undersøgelsesprojekt: Etnografisk feltarbejde |
| Module code | TBITANK18302 |
| Module type | Project |
| Duration | 1 semester |
| Semester | Autumn |
| ECTS | 25 |
| Language of instruction | English |
| Empty-place Scheme | Yes |
| Location of the lecture | Campus Aalborg, Campus Copenhagen |
| Responsible for the module | Lars Kørnøv Botin , Anne Marie Kanstrup |

ORGANISATION

| | |
|-------------|-----------------------------------------------------------|
| Study Board | Studyboard for Techno-Anthropology and Sustainable Design |
| Department | Department of Planning |
| Faculty | Technical Faculty of IT and Design |

ACADEMIC INTERNSHIP

2018/2019

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

The student conducts a project report within in an external organisation in order to acquire practical experience in solving advanced techno-anthropological challenges in a professional context.

Students who complete the module can

LEARNING OBJECTIVES

KNOWLEDGE

- hold knowledge of techno-anthropological methods for analysis of advanced tasks within the field of the external organisation.
- understand the connection between theory and practice.
- hold knowledge of the organisational structure and the work of an organisation seen from an interdisciplinary and techno-anthropological perspective.

SKILLS

- be able to apply techno-anthropological methods for analysis and solving of advanced tasks within the field of the external organisation.
- be able to compare and evaluate assumptions, limitations and uncertainties related to the methods applied in connection to finding solutions of advanced challenges within the field of the external organisation.

COMPETENCES

- be able to handle development-oriented situations in connection to either studying or working.
- be able to use the correct terminology in oral, written or graphical communication and documentation of challenges and solutions within the field of the external organisation.
- be able to analyse the academic, professional and social benefits of the traineeship.
- be able to communicate these results in a project report
- be able to evaluate the learning result of the academic internship

EXAM

EXAMS

| | |
|-----------------|------------------------------|
| Name of exam | Academic Internship |
| Type of exam | Oral exam based on a project |
| ECTS | 25 |
| Assessment | 7-point grading scale |
| Type of grading | Internal examination |

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|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Criteria of assessment | The student presents the academic internship and the professional results, including the major projects in particular. The evaluation shall include a discussion and assessment of the academic internship and the study programme, and a reflection of the consistency of the academic internship with the study programme's activities is made. The evaluation is based on an assessment of the student's presentation and discussion of the project report and the academic internship, and the project report. |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

FACTS ABOUT THE MODULE

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|----------------------------|----------------------------------------------------------------------------|
| Danish title | Projektorienteret forløb i en virksomhed |
| Module code | TBITANK18303 |
| Module type | Project |
| Duration | 1 semester |
| Semester | Autumn |
| ECTS | 25 |
| Language of instruction | English |
| Empty-place Scheme | Yes |
| Location of the lecture | Campus Aalborg, Campus Copenhagen |
| Responsible for the module | Lars Kørnøv Botin , Anne Marie Kanstrup |

ORGANISATION

| | |
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| Study Board | Studyboard for Techno-Anthropology and Sustainable Design |
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