

## Module description (Bachelor programme for Top-up)

<b>Module title, ECTS credits</b> Module 5a: Theory of science and method 5 ECTS
<b>Location</b> Course designed for Top-up students only. Autumn semester
<b>Module coordinator</b> Kim Malmbak Møller
<b>Type and language</b> Course module English
<b>Learning Objectives</b> After attending this course the students are expected to possess the following knowledge, skills and competencies: <ul style="list-style-type: none"><li>• Knowledge: During the course the students are expected to be able to define and identify the topics of<ul style="list-style-type: none"><li>○ Ontology and epistemology in different paradigms</li><li>○ The evaluation of scientific methods</li><li>○ Logic, assumptions and the validity of a conclusion</li><li>○ Problem based learning and project-oriented work</li></ul></li><li>• Skills: The students are expected to possess the necessary knowledge which allows them<ul style="list-style-type: none"><li>○ To analyze and critique the selection and argumentation for the application of scientific methods</li><li>○ To discuss and apply the implications of philosophical paradigms in the practice of project-oriented work</li><li>○ To assess different scientific paradigms and their respective ontological and epistemological perspectives</li><li>○ To reflect upon their own methodological choices and perspectives and the scientifically consequences thereof in terms of creating and evaluating knowledge</li></ul></li><li>• Competencies: The students are expect to be able to<ul style="list-style-type: none"><li>○ Manage their own role in a learning and research environment</li><li>○ Independently design and evaluate a research process</li><li>○ Evaluate the scientific work and texts of others</li></ul></li></ul>

## **Academic content and conjunction with other modules/semesters**

### **Literature**

- Lindgaard, R. & Møller, K. 2017:"Why philosophy of science". Working paper.
- Searle, J.2015:"The problem of consciousness" Retrieved at <http://users.ecs.soton.ac.uk/harnad/Papers/Py104/searle.prob.html> on the 24.07.2017
- Kolmos, A. et. al. 2006:"The Aalborg model". Aalborg University Press
- Taylor, F. 1911:"Scientific Management" in "Scientific Management". Harper and Row
- Fast, M. & Møller, K. 2017:"Learning and Cognition".
- Alvesson, M. & Sköldbberg, K. 2010:"Critical Theory: the political and ideological dimension" in "Reflexive Methodology"-

All literature is available on Moodle prior to the lecture.

The module is vital for Top-up students in order to be able to work problem-based and project-oriented for the rest of their bachelor program.

## **Scope and expected performance**

During the course it will be required for the students to work on a methodology chapter in groups as a running task. The chapters can exceed no more than 10 pages.

In order to pass the course the following is required of the students:

- A submission of a written chapter on methodology.
- An oral exam in groups, which is based on the written methodology chapter and the discussions in the lectures. Students must pass this component.
- The students will also be evaluated based on their understanding of the course literature.

Make sure that you are all able to meet the minimum standards – which are:

- The ability to present the two overall paradigms: the subjective and the objective paradigm
- The ability to define the ontology and epistemology of the subjective and the objective paradigm
- The ability to evaluate in general terms how scientific methods, problem formulations and a philosophical paradigm interact in PBL work.
- Present your own or others research design based on the paradigms mentioned above
- Present the difference between qualitative and quantitative methods in relation to their ontological and epistemological assumptions

We would appreciate your ability to:

- Present the different definitions of validity and reliability in qualitative and quantitative

methodologies

- Discuss and assess logical arguments in terms of their validity and assumptions

## **Participants**

Top-up students that need a fast and intensive course in order to work within the frame of the Aalborg PBL-model.

## **Module activities (course sessions etc.)**

### **Lectures and workshops**

#### **Lecture 1 and 2:**

The students will be introduced to notions such as logic, definitions, assumptions, scientific methods, actions and research design.

Literature:

Why philosophy of science

The problem of consciousness

#### **Lecture 3 and 4:**

The students will be introduced to the core concepts of the course, namely problem based learning and philosophy of science along with a discussion of how the concepts can be applied in a scientific project.

Literature:

The Aalborg Model

Critical theory: the political and ideological dimension

#### **Lecture 5 and 6:**

The lectures contains a brief introduction into the major schools within philosophy of science and furthermore a discussion regarding how they can result in different approaches to the study of organizations and economics.

Literature:

Learning and cognition

## Scientific Management

### **Workshop 1 and 2:**

The aim of the workshops is to enhance student participation and learning through discussions regarding specific cases which is relevant to philosophy of science and the PBL model.

- The students will be graded with a mark from the 7-point grading scale.
- The exam duration is:
  - 30 minutes for students not in a group
  - 60 minutes for groups