

# COURSE SYLLABUS Theory of Science and Scientific Method, 15 credits

Theory of Science and Scientific Method, 15 högskolepoäng

Course Code: Confirmed by: Pavised by:	HTSR25 Utbildningsrådet Feb 16, 2015 Department bead, Jun 13, 2016	Education Cycle: Disciplinary domain:	Second-cycle level Health sciences
Valid From: Version:	Aug 29, 2016 2	Subject group: Specialised in:	TR1 A1N
Reg number:	2016/2363 (313) Avdelningen för rehabilitering/Department of Rehabilitation	Main field of study:	Occupational Therapy

#### Intended Learning Outcomes (ILO)

Upon completion of the course, the student will be able to:

Knowledge and understanding

- thoroughly describe the progression of knowledge based on different approaches in the theory of science
- describe appropriate quantitative, qualitative and combined research methods for different kinds of research questions
- compare design, methods of data collection and data analysis related to different research methods
- describe ethical considerations within different research approaches
- explain what signifies validity and reliability, as well as trustworthiness and credibility in quantitative as well as qualitative studies.

Skills and abilities

- under supervision perform studies using different research approaches
- apply descriptive and analytical statistics
- conduct interviews and data analysis using a qualitative research approach
- compile and present findings from quantitative, qualitative or combined methods studies
- apply ethical considerations within research.

Judgement and approach

- · evaluate and discuss approaches in theory of science related to research design
- · evaluate different research methods in relation to chosen research questions
- evaluate the quality of scientific studies using different design approaches in addition to conclusions drawn.

## Contents

#### Philosophical principles of research and approaches of theory of science

- approaches in theory of science
- critical review of scientific articles

- research ethics

#### **Research** approaches

- research design within quantitative research methods
- research design within qualitative research methods

- data collection, analysis and presentation using a quantitative, qualitative or combined research methods

# Type of instruction

The course is given as a web-based distance course.

The teaching is conducted in English.

# Prerequisites

Bachelor's degree (i.e the equivalent of 180 ECTS credits at an accredited university) within health and caring sciences, behavioural science, social work, or educational sciences (or the equivalent).

# Examination and grades

The course is graded A, B, C, D, E, FX or F.

Module I. Philosophical principles of research and approaches of theory of science, 3 Credits One written group assignment.

Module 2. Quantitative research methods, 5 Credits

Two individually written assignments.

## Module 3. Qualitative research methods, 5 Credits

One written group assignment and one individually written assignment.

## Module 4. Thesis proposal, 2 Credits

An assignment and a presentation of a thesis proposal with a quantitative, qualitative or combined research method.

Examination by assistant professor.

Registration of	of examination:
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Name of the Test	Value	Grading
Philosophical principles of res. and appr. of theor. science	3 credits	A/B/C/D/E/FX/F
Quantitative research methods	5 credits	A/B/C/D/E/FX/F
Qualitative research methods	5 credits	A/B/C/D/E/FX/F
Thesis proposal	2 credits	A/B/C/D/E/FX/F

# Other information

## Attendance requirements

Mandatory attendance at online seminars.

## Course literature

American Psychological Association. (2009). *Publication Manual of the American Psycho*logical Association. Washington, D.C.: The Association cop.

Belenky, M., Clinchy, B., Goldberger, N., & Tarule, J. (1997). Womens Ways of Knowing: The

*Development of Self, Vioice and Mind 10th Anniversery Edition*. New York: Basic Books. Creswell, J.W. (2013). *Research design*. London: SAGE Publications Inc.

Day, R. A. (1998). *How to Write & Publish a Scientific Paper*. Cambridge: Cambridge University Press.

Kessel, F., Rosenfield, P. L., & Anderson, N. B. (Eds.). (2008). *Interdisciplinary Research: Case Studies from Health and Social Science*. Oxford: University Press.

Kvale, S., & Brinkmann, S. (2008). *InterViews: Learning the Craft of Qualitative Research Interviewing*. Thousand Oaks: SAGE publications.

Okasha, S. (2016) *Philosophy of Science: Very Short Introduction*. Oxford: Oxford University Press.

Oliver, P. (2010). *The Student's Guide to Research Ethics*. United Kingdom: Open University Press.

Palant, J. (2014). The SPSS Survival Manual. United Kingdom: Open University Press.

Portney, G. L., & Watkins, M. (2013). *Foundations of Clinical Research*. United Kingdom: Pearson Education.

Latest edition of textbooks to be used.

In addition: scientific articles and reports depending on main area and chosen research method.