Linnæus University

Jnr: 2016/6022-3.1.2.2

Course syllabus

Faculty of Technology
Department of Mathematics

4PP70E Självständigt arbete inom speciallärarprogrammet specialisering mot matematikutveckling, 15 högskolepoäng

Degree project in special education teacher training program with focus on Mathematics development, 15 credits

Main field of study
Mathematics

Subject Group
Educational Sciences/Theoretical Subjects

Level of classification
Second Level

Progression
A1E

Date of Ratification
Approved 2013-11-11
Revised 2016-11-02 by Faculty of Technology. The progression is revised.
The course syllabus is valid from spring semester 2017

Prerequisites
4PP213 Professional qualities III: Scientificity and School Improvement, 5 credits
4PP704 Special support in mathematics development IV, 5 hp or equivalent.

Objectives

The aim of the course is that students should be able to produce an independent work of scientific nature in mathematics education from a special educational perspective. Students should deepen their ability to independently and scientifically pursue development and process of change in future employment. The student shall after the course have a thorough knowledge of mathematics education problem areas in relation to special education. After completing the course the student should be able to:

- formulate research questions relevant to professional activities
- independently plan and carry out an empirical study
- argue for the choice of methodology and instruments
- search, obtain, collate, evaluate and critically review for the study relevant scholarly literature as well as information
- analyze its own empirical work based on selected theories and draw conclusions, and discuss the credibility and validity of the interpretations made and extrapolated pedagogical implications
- show ethical awareness in the planning and implementation of the independent work
- discuss and evaluate the results of the study in relation to future employment as a

remedial teacher in mathematics
- verbally and in writing be able to present and defend a scientific study
- critically review and on a scientific base constructively discuss degree projects.

Content
The course consists of a scientifically independent work, where the student with guidance, select, process and present an educational problem within special educational needs in mathematics.

The following topics are included:

- mathematics education from different research perspectives relevant to the profession as a remedial teacher in mathematics development.
- application of different theoretical perspectives
- applied research methodology
- processing and analysis of research
- application of ethical principles
- communication of research results both orally and in writing.
- critical and constructive review of others' independent projects

Profession basis and professional progression

The profession perspective in Special Education, specialization mathematics emerges from the integration of theoretical knowledge, conversations between and within professions and work-related parts. In the independent work exposes the student the job-specific basis for their professional skills as a special education teacher with specialization mathematics development. The project work also presents the basis for professional development both in terms of their own professional development and development for the workplace.

Scientific approach and scientific progression

A scientific approach is constantly evolving in the connection between mathematics didactic and teacher knowledge and conscious development of critical approach, analytical skills and the ability to communicate their knowledge orally and in writing. In the independent work appears these abilities.

Type of Instruction
Students write their own independent work under supervision.
Supervision of the independent work can be done in collaboration between the institutions involved, depending on the student's choice of topic. Seminars dealing with the student's texts are given to help with the degree project.

Examination
The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).
Course content is assessed through the degree project, presented and defended at the end of the course. The project is examined at a public seminar with a designated opponent. In cases where two students have made a joint project, the individual efforts need to be distinguished and individually assessed. When the supervisor in consultation with the examiner believes that we are but for extensive changes will be approved given consent for the final examination. For a passing grade the expected learning outcome has to be achieved.

Course Evaluation
On completion of the course a course evaluation is compiled and written feedback is sent out to the students. The compilation is reported for current institutions and for the relevant program committee, and preserved by the man institution.

Other

Any additional costs associated with the independent project is funded by the student.

Required Reading and Additional Study Material

Required Reading

The student, together with the supervisor and examiner, will select relevant literature for the thesis.

Reference Literature

Bjerstedt, Åke (1997).*Rapportens yttre dräkt: Några rekommendationer*. Lund: Studentlitteratur. 77 pages. ISBN 9144004834.

Bryman, Alan (2011). *Samhällsvetenskapliga metoder*. Malmö: Liber. 690 pages. ISBN 9789147090686.

Creswell, John W. (2013). Qualitative inquiry and research design: choosing among five approaches. 3., [updated] ed. Thousand Oaks: SAGE Publications

Harboe, Thomas (2013). *Grundläggande metod: Den samhällsvetenskapliga uppsatsen*. Malmö: Gleerups. 160 pages. ISBN 9789140681287.

Hjerm, Mikael & Lindgren, Simon (2010). *Introduktion till samhällsvetenskaplig analys*. Malmö: Gleerups. 155 pages. ISBN 9789140670397.

Jarrick, Arne & Josephson, Olle (1996) *Från tanke till text. En språkhandbok för uppsatsskrivande studenter*. Lund: Studentlitteratur, 133 pages. ISBN 91-44-26842-4I

Johansson, Bo. & Svedner, Per-Olof *Examensarbetet i lärarutbildningen*. Uppsala: Kunskapsföretaget, 2001. 136 (136) pages. ISBN 91-89040-36-8

Kvale, Steinar & Brinkmann, Svend (2009). *Den kvalitativa forskningsintervjun*. Lund: Studentlitteratur. 370 pages. ISBN13 9789144055985.

Merriem, Sharan B (1994). *Fallstudien som forskningsmetod*. Lund: Studentlitteratur. 228 pages. ISBN 9789144390710.

Patel, Runa & Davidson, Bo (2011). *Forskningsmetodikens grunder*. Lund: Studentlitteratur.149 pages. ISBN 9789144068688.

Patton, Michael Quinn (2002). *Qualitative Research & Evaluation methods* (3ed.). London: Sage. 598 pages. ISBN 9780761919711.

Schoenfeld, Alan. H. (2000). *Purposes and Methods of Research in Mathematics Education*. Notices of the AMS, Vol. 47, Nr6, 641-649. 8 (8) pages.

Språkrådet (2008).*Svenska skrivregler*. Stockholm: Liber. 264 pages. ISBN 9789147084609.

Suter, Larry. E. & Frechtling, Joy (2000). *Guiding Principles for Mathematics and Science Education Research Methods: Report of a Workshop*, NSF. 30 pages.

Wilhelmsson, Elisabet (2007). Studiepraktikan. Stockholm: Liber. 62 pages. ISBN: 9789147081004.