Linnæus University

Dnr: LNU-2023/3180

Course syllabus

Faculty of Technology

Department of Informatics

2IK045 Vetenskapliga metoder, 7,5 högskolepoäng
2IK045 Scientific Methods, 7.5 credits

Main field of study
Informatics

Subject Group
Informatics/Computer and Systems Sciences

Level of classification
First Level

Progression
G2F

Date of Ratification
Approved by Faculty of Technology 2023-10-09
The course syllabus is valid from spring semester 2024

Prerequisites
At least 60 credits in informatics/information logistics including 1IK071 Foundations of Informatics, 7.5 credits or the equivalent.

Objectives

The aim of this course is for the student to acquire knowledge of different methodological approaches and methods and of how these are to be used relative to a research problem. The student will also deepen their knowledge of informatics as a research subject.

After completing the course, the student is expected to be able to

- A.1 account for and explain basic scientific concepts
- A.2 account for and critically reflect upon informatics as a research subject
- A.3 carry out information and literature searches
- A.4 select, justify and evaluate a methodological approach or approaches based on the research problem
- A.5 describe and explain the pros and cons of different scientific methods in quantitative as well as qualitative data collection
- A.6 use scientific methods for quantitative as well as qualitative data collection
- A.7 use scientific methods for quantitative as well as qualitative data analysis

- A.8 understand and evaluate scientific papers.

Content

The course covers

- philosophy of science and methodological approaches in informatics
- academic literature searching
- presentation of a research problem for an academic paper in the relevant subject field
- practical exercises in collecting and analysing qualitative and quantitative data
- designing a report in accordance with the requirements placed on degree projects/bachelor theses.

Type of Instruction

Teaching is delivered in the form of lectures and seminars. Participation in seminars is compulsory. Course material is presented on the online learning platform, which the student accesses via the internet. Feedback on submissions is also communicated via the learning platform.

Examination

The examination of the course is divided as follows:

Code	Designation	Grade	Credits
2401	Written individual test	U/G/VG	2,00
2402	Individual research report	U/G/VG	2,00
2403	Group assignment	U/G	3,50

The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).

In order to receive the grade of Pass for the course, the student must have received this grade for all components. In order to receive the grade of Pass with Distinction, the student furthermore needs to have received this grade on the individual written exam and the individual research report.

Resit examination is offered in accordance with Local regulations for courses and examination at the first and second-cycle level at Linnaeus University. If the university has decided that a student is entitled to special pedagogical support due to a disability, the examiner has the right to adapt the exam or to let the student conduct the exam in an alternative way.

Objectives achievement

The examination elements are linked to the course objectives in the following ways:

Goal	2401	2402	2403
A.1	☑		
A.2		☑	
A.3		☑	☑

A.4	☑	☑	☑
A.5		☑	☑
A.6		☑	☑

Course Evaluation

During or shortly after the course, a course evaluation should be conducted. The result and analysis of the course evaluation should be promptly communicated to the students who have taken the course. Students who are taking the course when it is offered the next time should be informed of the result at the course introduction. The course evaluation is anonymous.

Other

The students are expected to have access to computers and to the internet, in order to be able to access the course material, which is found on the course learning platform, accessed via the internet.

Required Reading and Additional Study Material

Required reading

Creswell, John W., *Research Design. Qualitative, Quantitative, and Mixed Methods Approoaches*. Sage Publications (the latest edition). 260 pages.

Jacobsen, Dag I, *Hur genomför man undersökningar – Introduktion till samhällsvetenskapliga metoder*. Studentlitteratur (the latest edition). 260 pages.

Valacich, j., Schneider, C, *Information Systems Today* (the latest edition). Pearson education limited. 500 pages

Relevant scientific articles available at the University Library. 150 pages

Supplementary reading

Chalmers, A. F., *Vad är vetenskap, egentligen?*, Nya Doxa, 1994.

Järvinen, P., *On Research Methods.* Tampere: Tampereen Yliopistopaino, 2001.

Eliasson, Annika, *Kvantitativ metod från början.*, Studentlitteratur.2006. 169 pages.