Linnæus University

Dnr: 2020/4080-3.1.2.2

Course syllabus

Faculty of Technology

Department of Informatics

2IK004 Grundläggande vetenskapliga metoder, 7,5 högskolepoäng
2IK004 Basic Scientific Methods, 7.5 credits

Main field of study
Informatics

Subject Group
Informatics/Computer and Systems Sciences

Level of classification
First Level

Progression
G1F

Date of Ratification
Approved 2009-12-04
Revised 2020-12-01 by Faculty of Technology. Literature list is revised.
The course syllabus is valid from spring semester 2021

Prerequisites
At least 45 credits in informatics/information logistics or equivalent.

Objectives

The student will deepen their knowledge of informatics as a research topic and their ability to evaluate and consider the use of different methods in relation to a research problem.
After completing the course students will be able to:

- demonstrate knowledge of informatics as a research topic
- demonstrate an understanding of the meaning of basic scientific concepts
- carry out information and literature search
- motivate, evaluate and select the method of approach/s in relation to the issue
- describe and explain the pros and cons of various scientific methods in both quantitative and qualitative data collection
- use basic scientific methods of quantitative and qualitative data collection (survey-design and query templates)
- use basic scientific methods of quantitative and qualitative data analysis
- be familiar with the structure and form of scientific papers
- understand and evaluate scientific papers.

Content
The course covers:

- scientific literature search
- report format according to the requirements for degree project/first cycle paper
- practical training in data collection instrument (survey, questionnaire)
- theory and practice approaches in the field of computer science
- presentation of scientific problem/design report for a scientific paper in the relevant field.

Type of Instruction
Teaching consists of lectures and seminars.

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

Assessment of student performance is made through written test and/or oral examinations and/or presentation of mandatory assignments. The main form of examination is determined at the start of the course.

Students who do not pass the regular examination will be offered retrials close to the regular examination.

Course Evaluation
During the course or in close connection to the course, a course evaluation is to be carried out. The result and analysis of the course evaluation are to be communicated to the students who have taken the course and to the students who are to participate in the course the next time it is offered. The course evaluation is carried out anonymously. The compiled report will be filed at the Faculty.

Required Reading and Additional Study Material
Required reading
Creswell, John W., *Research Design. Qualitative, Quantitative, and Mixed Methods Approoaches*. Sage Publications (latest edition). 260 pages.

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

Valacich, j., Schneider, C, *Information Systems Today* (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.