Scientific Methods 7.5 credits A7006N

Vetenskapliga metoder

Course syllabus admitted: Autumn 2023 Sp 1 - Present

DECISION DATE
2023-02-15

LULEÅ
TEKNISKA
UNIVERSITET

Scientific Methods 7.5 credits A7006N

Vetenskapliga metoder

Second cycle, A7006N

Education level	Grade scale	Subject	Subject group (SCB)
Second cycle	U G VG *	Informationsteknik	Computer Technology

Main field of study

Information Security, Computer Science and Engineering

Entry requirements

Minimum 120 ECTS of university studies including 60 ECTS in the areas of computer science or systems science, business administration or equivalent. English equivalent to English 6.

Selection

The selection is based on 30-285 credits

Course Aim

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

- Describe how scientific methods and their particular properties can enable or restrict information systems research.
- Critically evaluate research reports.
- Apply scientific methods to different types of research problems.
- Design a realistic, empirical research plan.
- Communicate and defend their own research proposal.

Contents

To be able to appreciate research and its special characteristics, common research methods in the field of information systems are discussed and used in this course. Three research approaches will be explored: design-oriented research, qualitative research and quantitative research. Under these three broad themes, examples of particular research methods and techniques are introduced. The students will develop knowledge in how to design a research process from initial problem definition onwards to a meaningful research plan. Moreover, students will develop their skills in critical thinking and reflection on their learning process.

LULEÅ
TEKNISKA
UNIVERSITET

Realization

Each course occasion´s language and form is stated and appear on the course page on Luleå University of Technology's website.

The course takes the form of lectures, individual work, project work, and seminars. Student learning will take place through participation in lectures, self-study, individual assignments, and a project. The course utilises a problem-based learning approach, applying the theoretical knowledge of research methods on the student's own research idea. The project can be conducted individually or in a small group. During the course, the student will critically analyse and reflect on conducted assignments, e.g., by reviewing and commenting on other research proposals.

The individual assignments and the project target the application of knowledge of research methods and approaches introduced in the lectures to a student's own research problem. In the project, a student develops and presents a research proposal based on his/her interest, self-study of relevant literature identified with the selected research problem, and showing perception of alternative research approaches in relation to the selected problem.

Teaching is in English and on Internet for distance students or at campus for the students living here. IT support: Learning management system (Canvas), e-mail and phone.

Canvas Learning Management System is used for delivering course material, information and submissions. Knowledge is shared and created within the course through virtual meetings with teachers and other students for discussions, supervision, teamwork and seminars. For student on campus there will be meetings on campus.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided.

Students will be assessed through written reports and an oral presentation of the project work in a seminar. Assignments and projects target the application of knowledge of research methods and approaches introduced in the lectures to a student's own research problem. In the project, a student develops and presents a research/development proposal based on his/her interest, self-study of relevant literature identified with the selected research/development problem, and showing perception of alternative research approaches in relation to the selected problem.

Unauthorized aids during exams and assessments

If a student, by using unauthorized aids, tries to mislead during an exam or when a study performance is to be assessed, disciplinary measures may be taken. The term "unauthorized aids" refers to aids that the teacher has not previously specified as permissible aids and that may assist in solving the examination task. This means that all aids not specified as permissible are prohibited. The Swedish version has interpretative precedence in the event of a conflict.

Remarks

Technical Requirements: access to PC with Windows, microphone, Web cam, headset and permission to install software. Internet connection (minimum 0,5 Mbps).

Course offered by

Department of Computer Science, Electrical and Space Engineering

LULEÅ TEKNISKA UNIVERSITET

Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0003	Individual assignment reports	U G VG *	3	Mandatory	A16	
0004	Research proposal (individual or group)	U G VG *	4.5	Mandatory	A16	

Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

Last revised

by Robert Brännström 2023-02-15

Syllabus established

by Institutionen för industriell ekonomi och samhällsvetenskap 2007-02-28

LULEÅ
TEKNISKA
UNIVERSITET