

Course programme

Course code: IFI8003	Research methodology		
ECTS credits: 6 EAP	Contact hours: 18 h	Semester: Spring	Exam
Course objective:	<p>This course aims to support the development of the research skills for the doctoral students of the program Technologies for information society. This course introduces students to the issues, concepts, methods and techniques associated with Technologies in Information Society research. It covers research methodologies, data collection and analysis, ethical and professional issues and oral and written communication skills. Skills developed and knowledge acquired from this course will prepare students to conduct and to communicate their own research, as well as to be knowledgeable consumers of others research.</p> <p>Goals:</p> <ul style="list-style-type: none"> To provide a deep and systematic understanding of the nature and conduct of Technologies for information society research To equip students with the ability to undertake independent research To enhance and develop higher-order transferable key skills To remind students of the Legal, Social, Ethical and Professional issues applicable to the research in Technologies for information society 		
Brief description of course content:	<p>Method of study: The theoretical issues are taught in the practical context.</p> <p>Minimum total expected workload equals 6 ECT comprising: (a.) Contact hours 18 academic hours run 6 times: 12 academic hours of lectures; 6 academic hours of seminars (b.) Additional requirements (all students): Independent study for assignments, private study and revision.</p> <p>Topics: 29.01.2014</p> <ol style="list-style-type: none"> 1. Overview of the course and assignments. <p>What kind of scientist I will be? Ethics and community practice of scientists.</p> <p>The structure of the national and international research communities. How to be part of the international science community. From where to find research papers?</p> <p>Research styles, research models (Experimental study (in computer science). Longitudinal study. Meta-analysis technique. Modeling (reference frameworks). Simulation.)</p> <p>Seminar: Planning the research. Ethics of social research. Creating the proposal: problem, goals, research questions, hypotheses.</p> <p>Research plan. Discussion with the research topics of participants.</p>		

	<p>5.02.2014 2. Qualitative, quantitative and mixed methods research - comparison of research philosophy and aspects. Research epistemologies. Validity and reliability in qualitative and quantitative studies. Triangulation. Types of data, and descriptive data analysis variables (mean, mode, standard deviation, skewness, kurtosis). Seminar to present research plans.</p> <p>19.02.2014 3. Research style: Survey. Longitudinal study. Trend study. Internet based research – network analysis, systems analysis. Data collection instruments (e.g. tests, questionnaires). Seminar to present research paper overview. Delphi method. SNA.</p> <p>26.02.2014 4. Research style: Naturalistic and ethnographic research. Historical and documentary research. Case studies. Action research. Data collection instruments (interviews, observations). Seminar to present research paper overview. Phenomenography. Narrative analysis. Grounded theory and content analysis.</p> <p>5.03.2014 5. Research style: Design-based research. Design as a hypothesis. Participatory approaches. Evaluation research. Seminar to present research paper overview. Cognitive modeling. Design space.</p> <p>12.03.2014 6. Scientific writing and presenting. Plagiarism. Comparing presentation styles for different types of research. APA style. How to make research poster and paper. Presenting research results in the doctoral study. Seminar: Mini-conference: presenting your research plans. Evaluating research plans in the conference format.</p>
<p>Learning outcomes:</p>	<p>Have a conceptual understanding of established techniques of research and enquiry in Technologies for information society sufficient to be able to deal with complex issues at the forefront of the academic discipline of Technologies for information society research in a self-directed manner, based on sound judgement, that is both systematic and creative: 1) Proposing possible research directions for his doctoral work to extend, create and interpret knowledge in Technologies for information society domain: 2) be able to define and plan a programme of independent research and implementing research plans; 3) evaluate critically current research in Technologies for</p>

	information society from the research methods point of view; 4) be able to communicate research plans clearly to both specialists and non-specialists.
Assessment methods:	Exam
Responsible lecturer:	Kai Pata, PhD
Title in English:	Research methodology
Prerequisite course:	
Compulsory literature:	Lecture materials and selected research papers Research Methods in Education Sixth edition Louis Cohen, Lawrence Manion and Keith Morrison 2007 QUALITATIVE INQUIRY&RESEARCH- DESIGN Choosing Among Five Approaches John W Creswell 2007
Replacement literature:	Selected research papers (available in the Moodle course) Research Methods in Education Sixth edition Louis Cohen, Lawrence Manion and Keith Morrison 2007 QUALITATIVE INQUIRY&RESEARCH- DESIGN Choosing Among Five Approaches John W Creswell 2007
Subscription to the course and exam	The exam grade is given for three tasks: 20% of the grade: Assignment I. Plan of the doctoral study 50 % of the grade: Assignment II. Research proposal (4 pages) 30 % of the grade: Assignment III. Analysis of research paper (1-2 pages)
Requirements for independent work:	Contact hours 18 academic hours run 6 times: 12 academic hours of lectures; 6 academic hours of seminars (b.) Additional requirements (all students): Independent study for assignments, private study and revision.
Assessment criteria:	Assignments and Grading:

The grade is given for three tasks:

20% of the grade

Assignment I. Plan of the doctoral study (visual, 1 page, in ppt format)

The plan contains research problem, research goals, research questions, data collection methods, data types collected, expected results that are presented in scheme. Harmonize, how different results will contribute to the topics of articles that you plan write for your doctoral study.

The draft of the plan is submitted by the second contact day. The lecturer of the course gives feedback to your plan. The final plan is developed for the 6th contact day and submitted. The final plan is presented and evaluated by peers at the mini-conference at 6th contact day.

50 % of the grade

Assignment II. Research proposal (4 pages) should contain:

The plan introduces your research project.

- Problem introduction
- Research goals
- Research questions
- Philosophical paradigm that you follow in your research
- Data collection methods
- Types of data
- Data analysis methods

You have to focus on one of the data collection or data analysis methods and describe it in the context of your research.

-Triangulation, validity and reliability

- Expected results

The plan is submitted at 6th contact day and will be commented by the lecturer. After receiving the comments, the student makes expected changes and submits final version.

The students are ought to discuss the plans also with their research supervisors.

30 % of the grade

Assignment III. Analysis of research paper (1-2 pages)

Student chooses a paper from provided resources and analyzes it.

Student must submit the analysis and also present it orally at the contact day where the topic is relevant.

When choosing the article topic, pay attention that it would suit with your research interest, you may use it when preparing your research proposal.

The grading is based on assignments (% of work submitted) as well as assignment quality (the plan contains all elements and is coherent, it explains chosen research methods using references to

	similar studies (from the methods point of view) and brings them into the particular research context).
Information about the content of the course:	Moodle https://moodle.e-ope.ee/course/view.php?id=9137