Research Project Management
Course Syllabus

This course contributes to the requirements for the Degree of MSc in Computer Science

Program Title	Master's Degree Program *Digital intelligent control systems* (delivered in English)
Course Type	core /mandatory
Course Period	3 semester from October, the 1st to February, the 1st (18 weeks)
Study Credits	3 ECTS credits
Duration	108 hours
Language of Instruction	English
Academic Requirements	– BSc degree in Computer Science or equivalent (transcript of records), – good command of English (an examination certificate or another formal document) **Possess:** Language skills, Professional Communication

Course Overview

Description

"Research Project Management" is a core course.

The course will introduce students to research principles and methods.

You will explore the principle components of research, from research design to research project management to the statistical tools for processing the data collected.

Students will also obtain the skills of reviewing research papers in their field and handling ethical matters arising from certain types of research. In addition, you will learn transferable skills such as project management, time management and stakeholder analysis that have broad applicability outside of research projects. After completing this course you will be able to undertake a research projects, from its initial design to research project management to the analysis of findings.

The course will also help students to organize and manage work on their master's dissertation.

Each research project is unique. The course focuses on principles, methods, and strategies that apply regardless of your project size, content, or research methodology.

The course reflects our experience in the field of computer science, but it is relevant for any field of research.

Course Objectives

The aim of the course is to motivate and prepare students for working on their research projects and for advanced courses in related fields.

- to familiarize students with the core stages of the project lifecycle and essential principles of effective research project management;
- to give students experience in using management strategies to solve the most common challenges faced by research project managers;
- to teach students to identify the key skills every research project manager needs and how they can benefit their careers – inside and outside of academia.

Learning Outcomes of the Course

By the end of the course, students will know:

- essential principles of research project management;
- core research project management stages;
- key skills a research project/programme manager need.

By the end of the course, students will be able to:

- design and evaluate research questions;
- critically assess information from a variety of sources;
- effectively communicate professional information in oral and written formats and through presentations;
- debate and discuss professional issues;
- critically assess the potential research designs in a selected area;
- assess the impact of potential risks on the research and discover tried and tested strategies for overcoming some of the challenges;
- identify what skills and resources a project needs to achieve its objectives;
- break a project into manageable tasks;
- work out how long it should take to complete a given project;
- identify the activities a specialist will need to make sure he/she will complete the research as planned.

By the end of the course, students will possess:

- the necessary skills to manage a research project from its initial design stages to the analysis of findings.

Course Structure

Learning Activities	**Hours**
Lectures	18
Practice / Seminars,	18
Assignments	36
Final Exam (including preparation)	36
Total	**108**

Detailed Schedule

Week	Lectures	Seminars/ Assignments	Hours Lec/Lab/HA
Semester 1			
1	**Course Overview.** Specifics of research projects. Importance of the effective management for research projects. Core terms and definitions. Research Project Manager Skills.	Getting started.	2/2/4
2	**Scientific knowledge and research methodology.** Research methodology. Organization of research.	Developing a research question	2/2/4
3	**Research Project Lifecycle.** Project stages. General issues and management strategies for each stage, including a research project manager role and impact.	Collecting research articles that match your research question and provide background for your research	2/2/4
4	**Project design.** Stakeholders. Roles and responsibilities. Applying for funding and research design.	Selecting research articles and preparing list of references. Taking notes and paraphrasing research papers	2/2/4
5	**Project planning**. Work breakdown Network analysis, Gantt charts	Writing an analytical review based on selected sources	2/2/4
6-7	**Resource and risk management.** Sources of risk. Symptoms of risk. Risk effects. Risk management planning.	Preparing a 10-minute presentation of your literature review.	2/2/4
8-9	**Project Implementation** Monitoring tools. Managing the project budget. Time management	Developing and describing methods to answer your research question	2/2/4
10-11	**Project Team** Leadership and teamwork. Communication. Managing Problems.	Research project	2/2/4
12-13	**Project completion.** Discussion of research project results.How to reflect on a project. Project development in the long run.		2/2/4
14-18	--	Preparing a 10-minute presentation of current project state and results	2/2/4
	18	**18**	**36**
36	**Final Exam**		**36**

Course Instructor and Tutor, Contact information

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Additional information is available at:
http://structure.sfu-kras.ru/node/2043#main

Evaluation and Grading

Evaluation strategy	Points, max	Evaluation criteria
Seminar activity	**15**	**Participation in a seminar is rated on a pass/fail scale. To pass a seminar, the student have to be present and active during the lesson (in the classroom or online).**
Tests	**10**	**Each section of the course ends with a test. The test is evaluated on a 100-point scale. The passing test score is 66 points. The number of test attempts is not limited. All tests must be passed to successfully complete the course.**
Literature Review	**25**	**A critical literature review that summarises the major approaches that have been used to date to address a given research issue**
Presentation	**25**	**A 10-minute presentation of literature review on a given research problem. The presentation can be delivered online**
Individual Project	**25**	**Research-based project as a part of the Master dissertation. Each participant will prepare a report that describes: (i) the nature and background of the research problem; (ii) a rationale for the methods chosen by the student to approach the problem; (iii) how you intend to carry out your research and what resources you will need.**

Grading policy for final assessment is:

- A (excellent work) 91–100 points
- B (above average) 81–90 points
- C (average) 71–80 points
- D (below average) 50–70 points
- F (failed) < 50 points

Attendance Policy

The course is designed to use e-learning and distance learning technologies. The course can be implemented in two versions: classroom lessons or distance learning.

If the course is implemented as classroom lessons, students are expected to attend classes regularly. In case of missing an in-lab activity a student should perform additional work submitted to the instructor within a week after a class was missed.

If the course is implemented in a distance format:

1. It is recommended to attend online lectures. If a student skips an online lecture, he or she must pass the e-course element "Lecture with test questions" on the relevant topic.

2. Timely submissions of work reports are anticipated.

If the work is not completed on time, you must contact the teacher through the e-course message indicating the reason for the delay and the estimated deadline. No more than 3 postponements are allowed.

3. Participation in the following events held in the format of videoconferences is mandatory:

- presentation of a presentation on the research topic;
- defense of the final report.

Those events can only be rescheduled for good reason.

Web page of the course

Course materials and required reading materials are available on the webpage of the course **Research Project Management Link: https://e.sfu-kras.ru/course/view.php?id=8803**, SibFU E-learning portal, www.e.sfu-kras.ru . You must be logged in to access this course.

Core reading

1. Kennett, B. (2014). Planning and managing scientific research. ANU Press. https://www.jstor.org/stable/j.ctt6wp816 (free access)
2. Singh, H. (2014). Mastering Project Human Resource Management: Effectively Organize and Communicate with All Project Stakeholders. FT Press.
3. Andersen, J., Toom, K., Poli, S., & Miller, P. F. (2017). Research Management: Europe and Beyond. Academic Press.
4. Wingate, L. M. (2014). Project management for research and development: guiding innovation for positive R&D outcomes. CRC press.
5. Sirotinina, N. (2012). History and methodology of computer science. Siberian Federal University. Tomsk: TPU Publishing House.

Facilities, Equipment and Software

Software:

- Internet access
- MS Office or Libra Office

Equipment:

- PC