Internship
Course Syllabus

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

Title of the Academic Program	Master's Degree Programs in English "Digital intelligent control systems"
Type of the course	core /mandatory
Course period	Second semester: from February, the 1st to June, 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 (certificate or other official document)

Course Description

"Internship" is a core course.

Familiarization internship is a part of your training as a researcher in computer science and computer engineering: you study scientific literature in these fields and participate in a research project in one of our scientific groups in the School of Space and Information Technologies or in other schools in Siberian Federal University (SFU).

Research Internship allows you to gain professional skills and experience in research activities. For successful development of research Internship, the student must possess practical knowledge, skills, universal, professional and General professional competencies acquired as a result of mastering the previous blocks of the education program.

The aim of the Internship is to prepare students to the process of writing a master thesis. This demands ability to link research question, research strategy, theory and methodology of experiment. Moreover, purpose of Internship is to study the issues of research activities, to get acquainted with the organization of research work, to consolidate and deepen the student's research training and to acquire practical skills and competencies in the field of research activities.

Special Features of the Course

Master students do Familiarization Internship in the School of Space and Information Technologies as well as in other schools in Siberian Federal University).

Master students will be offered internship topics of the internship with assigned supervisors. All topics are related with Informatics or computer engineering. However, students can also suggest their own topic, but a theme of a research project requires approval by the coordinator. Irrespective of the type of the project, you will always need a supervisor who is an SFU staff member (i.e. an assistant, associate, or full professor).

The internship may consist of (but not limited to):

- implementation of a research project on the subject of a future thesis;
- preparation of a scientific publication on a topic related to a thesis;
- work on other research tasks in coordination with the supervisor or academic director.

Course Objectives

The objectives of the course are:

- ensuring the formation of professional research thinking of master students, forming a clear idea of the main professional tasks, ways to solve them;

- developing the ability to critically analyze and evaluate current scientific achievements, generate new ideas when solving research and practical problems;

- defining the area of scientific research and analyzing the state of the issue in the subject area under study; developing readiness and basic skills for self-formulation and solving problems that arise in the course of research activities and require in-depth professional knowledge;

– mastering modern methods of scientific research, development of experimental research methods;

- conducting experimental research, forming the ability to carry out complex research based on a holistic system of scientific worldview;

- processing and analysis of the results of theoretical and experimental research, the formation of skills to use modern technologies for collecting information, processing and interpreting the obtained empirical data.

Learning Outcomes of the Course

With the successful development of research Internship, the student must master practical knowledge, skills, and acquire the following competencies:

- knowledge of the methodology of theoretical and experimental research in the field of professional activity;

- the ability to independently carry out research activities in the field of theoretical foundations of computer science using modern research methods.

Course (module) Structure

Learning Activities	Hours
Self-study Assignments	108
Total study hours	**108**

Course Outline

Week	Assignments	Hours
1-8	Organization of internship, familiarization with the goals, objectives and content of research internship, reports and deadlines for their submission, preparation of an individual plan for research internship.	8
	Familiarization with the scientific literature, choice of the theoretical basis of the work, methodological and practical tools of research, setting goals and objectives of research, forming hypotheses, developing a plan for conducting research activities.	30
9-18	Realization of research. Processing and interpretation of research results. Presentation and publication of the results in the form of theses, articles, presentation at the theoretical seminar of the profile Department.	30
	Scientific interpretation of the data obtained, their generalization, analysis of the research work done, design of theoretical and empirical materials in the form of a report on research internship	40

Assessment

Preparation and execution of a report on the results of Internship, the master student should issue a report that should reflect:

- the purpose of the Internship;

- the purpose of research work on the selected topic;

- requirements for research work on the selected topic;

- analysis of their activities during the course of Internship;

- results of research work on the selected topic;

- conclusions based on the results of research work;

- conclusions based on the results of Internship.

The report must be designed according to the General requirements and contain no more than 15 pages (font-14, spacing – 1.5).

Evaluation criteria: the grade "credited" is given to the student if the above points are correctly stated in the research Internship report; otherwise, the grade "not credited" is given.

Attendance Policy

Students are expected to work with their supervisor regularly. Meanwhile, excuses of various origin are permissible, in such case students take a consultation and do the necessary work at home (or at their own).

Course Instructor(s) and Tutor(s), contact information

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Google Scholar page:

https://scholar.google.ru/citations?user=JxdeoasAAAAJ&hl=ru

Additional information is available at:

https://structure.sfu-kras.ru/node/2153

Core reading

1. Jan Recker. Scientific Research in Information Systems. A Beginner's Guide. Springer International Publishing. 2013., p.164. ISBN 978-3-642-30048-6.
2. David Hitchcock. Patent searching made easy: how to do patent searches on the internet & in the library. Sixth edition. Berkeley, CA: Nolo, April 2013 p.257. ISBNs: 9781413318722, 141331872X, 9781413318739.
3. Yvonne N. Bui. How to Write a Master′s Thesis. Third Edition. SAGE publications, Inc. 2020. p.298. ISBN-13: 978-1506336091, ISBN-10: 1506336094.

Facilities, Equipment and Software

Internet access;

Microsoft Office®.