Project activities

Basic Information

Title of the Academic Program	Master's Degree Programs in English “Medical and Biological Physics”
Type of the course	elective
Course period	Fall semester, 1 semester (16 weeks)
Study credits	3 ECTS credits
Duration	108 hours
Language of instruction	English
Academic requirements	- BSc degree in Biology, Physics, Biophysics, Chemistry , Biochemistry, Environmental Sciences or equivalent (transcript of records), - good command of English (certificate or other official document)

Course Description

This course introduces students to the fundamental concepts of project management and the behavioral skills required for a successful researcher. Scientific career is connected with applying for grants and doing different research projects. Writing a successful research proposal requires management skills in the fields of resources, schedules, risks and scales project assessment. Within the course, students will learn basic concepts of project management. Special attention is paid to the critical success factors necessary to overcome resistance to change. In the course, the reasons for the failure of the project and ways to reduce risks through proper planning at the early stages of a new initiative will be investigated.

Special Features of the Course

The course is especially designed to introduce students to the key project management skills and strategies, and provide the opportunity to apply this knowledge through their educational trajectory within master’s courses.

Course Aim

This course focuses on project management methodology that will allow the course’s participants to initiate and manage projects effectively.

Course Objectives

The course has been designed to:

1. provide students with understanding of the manner of a project, the value of organizing work in projects and project management;

2. help students acquire knowledge and competencies so that they can more effectively manage any scientific project and perform project roles at a high level;

3. give an overview of how to manage and dial time, cost, risk and quality in of project;

4. ensure that students understand differences between doing a project supported by a Russian scientific foundation and an International foundation.

Learning Outcomes of the Course

After completing the course, students shall: 1) understand project management design, development, and deployment; 2) use project management tools, techniques, and skills; 3) understand the implications, challenges, and opportunities of project management; 4) understand how to manage project cost, quality, and logistics.

Teaching and Learning Methods

This course is divided into five Modules. Each content Module includes individual work to learn concepts and exercises for development of project activity skills and knowledge. The time for completing each Module is estimated to be between 4-10 hours, and the total amount of time required for the entire course is estimated to be 108 hours.

Course Structure

Learning Activities	**Hours**
Lectures	18
Practice sessions / Seminars	18
Self-study Assignments	72
Final Exam (including preparation)	0
Total study hours	**108**

Course (module) Outline

Week	**Lectures**	**Practice sessions / Seminars**	**Assignments**	**Hours**
Course Chapter 1 «Introduction»				
1-2	The history of the development of project activities. The concept of the project. Application of project management in scientific work. Current trends in	Methodology of project activity. The structure of project activities. Definition of objects and subjects of	Answer a short-response questionnaire	2/2

	the development of project activities.	the project.		
Course Chapter 2 «Principles of project activity»				
2-3	What is a project? Roles and responsibilities of participants in project activities.	Requirements for the organization of project activities. Research work as one of the types of project activity. Membership criteria. Role playing 'members vs the leading scientist'.	Answer a short-response questionnaire	4/8
Course Chapter 3 «Designing a Master's thesis»				
4-9	What are the differences between Bachelor's and Master's thesis? What should be the content of an ideal Master's thesis? How to apply project activity for purposes of Master's thesis?	How to write a Master's thesis within two years? A project's timetable. How to browse databases to write the Introduction section. The SibFU standards for a Master's thesis.	Answer a short-response questionnaire	6/10
Course Chapter 4 «Criteria for evaluation and defense of project activities»				
9-14	Evaluation of the success of a project. Reviewing and evaluation of scientific projects. Public defense of project activity results.	Evaluation of the success of a project. Reviewing and evaluation of scientific projects. Public defense of results of project activity.	Answer a short-response questionnaire	6/10
Course Chapter 5 «Financial support of project activities»				
14-15	The algorithm for finding grant programs to support student project activities. Development of a business plan.	Types of grants. Russian, International, state, private foundations and organizations: principles of work, current tenders.	Answer a short-response questionnaire Make a presentation	2/6

		Expenses and the project budget. Participants' payment. Development of	of a final project	
		a business plan and a project budget.		
16	Final Project			18/36

Course Instructor and Tutor, Contact information

Dr. Oleg S. Sutormin

Associate Professor of the Department of Biophysics

e-mail: OSutormin@sfu-kras.ru Tel.: +7 (391) 206-23-07

Assessment

The course assessment assignments will include:
Short-response questionnaire
Seminars
Final project

Attendance Policy

Students are expected to attend classes regularly. The final project is obligatorily for performance. Each studying period has its own points:

- one lecture costs 3 points;
- one seminar costs 4 points;
- final project costs 53 points.

To receive certification that a student has completed the course, a student must score more than 85 points

Web page of the course

The webpage of the course is available through E-learning SibFU web site: https://e.sfu-kras.ru/course/view.php?id=34956 . You must be logged in to access this course. Course Guide and all accompanying materials are also available at the course web-page.

Core reading

The books:

- Heerkens G. R. Project management. – McGraw Hill Professional, 2002.
- Heagney J. Fundamentals of project management. – Amacom, 2016. (https://goo.su/Qye8P6V)
- Schwalbe K. Introduction to project management. – Boston : Course Technology Cengage Learning, 2009. (https://goo.su/kNn3bc)

Journal articles:

- Seymour T., Hussein S. The history of project management // International Journal of Management & Information Systems (IJMIS). – 2014. – V. 18. – №. 4. – P. 233-240. (https://goo.su/O9UnsP)
- Shenhar A. J., Dvir D. Project management research—The challenge and opportunity // Project management journal. – 2007. – V. 38. – №. 2. – P. 93-99.

Electronic articles:

- Zwikael O., Globerson S. Evaluating the quality of project planning: a model and field results // International Journal of Production Research. – 2004. – V. 42. – №. 8. – P. 1545-1556.
- Peterson T. M. Motivation: How to increase project team performance //Project management journal. – 2007. – V. 38. – №. 4. – P. 60-69.
- Fan H. L., Huang M. H., Chen D. Z. Do funding sources matter?: The impact of university-industry collaboration funding sources on innovation performance of universities // Technology Analysis & Strategic Management. – 2019. – V. 31. – №. 11. – P. 1368-1380.

Facilities, Equipment and Software

The student should have access to a laptop or computer.

Students enrolled in a Distance Education program are required to have access to the Internet to be able to use the educational platform, educational resources, attend classes, submit assignments, share with classmates, and contact their professors.

Learning materials are provided to students in either Adobe PDF, Microsoft Office, Google files or compatible formats.