Basic Information

This is a course, which contributes to MSc award in Chemistry

Title of the Academic Program	Master's Degree Programs in English "Petroleum Chemistry and Refining"
Type of the course	Core
Course period	From October 1st till February 1st, 1 semester (9 weeks)
Study credits	5 ECTS credits
Duration	180 hours
Language of instruction	English
Academic requirements	BSc degree in Chemistry and Petroleum Engineering

Course Description

The course acquaints students with the fundamentals of project management. The coursefocuses on the triple constraints of project management – scope, time, and cost.

The course lectures equip students with the knowledge of the key concepts and tools ofproject analysis, evaluation and planning.

The course workshops create a productive environment for students to apply modern tools and techniques of the project plan development and resource control and monitoring.

Special Features of the Course

The innovative character is the applied nature of the course based on learning and practicing of resource, time and cost optimization methods in project design and implementation.

The course puts strong emphases on using of active and interactive methods and techniques of problem solving in mastering the tools of Project Management.

Alongside with constructing new knowledge on Project Management essentials in lectures, students are supposed to develop their critical thinking, become aware of self-management and group dynamics through active participation and contribution during the sessions and doing individual assignments.

The course can be taught as a separate module or make a part of a Master programme in Engineering, Business Studies, Management or Information Science.

Course Aim: to give students an introduction to Project Management

Course Objectives

- to promote an understanding of the key principles, concepts and strategies of projectmanagement;
- to examine the broad project environment based on project analysis models;
- to apply project management tools and techniques to a real project to provide the project aim achievement in terms of scope, cost, time and quality;
- to enable students' to exercise initiative and personal autonomy in determining the

goals and methodological approaches relevant to the project context, managing the execution, and control of the project against those goals

Learning Outcomes of the Course

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

- to describe the main principles and methods of project scope, time and finance management;
- to classify models, tools and techniques of project management;
- to arrange the steps of the project planning;
- to select and apply appropriate methodologies and techniques of project management;
- to allocate, coordinate and monitor project resources at all stages of the project lifecycle;
- to identify stakeholders;
- to analyze project feasibility and economic efficiency;
- to evaluate project investments from all stakeholders' points of view;
- to test project risks;
- to produce detailed project plans and schedules.

Teaching and Learning Methods

As the course is taught on the flipped classroom model, you are supposed to do individualreading or the recommended MOOC materials before the lecture. It will help you to have some background knowledge on the considered problem and be ready to ask questions during lectures and workshops.

For workshops you are expected to print out the workbook assignment for a particular week. Workshops are used to cover the main course topics and apply information from the lectures to a particular problem. The tutor makes recommendations and explains how to do the workbook assignment.

Workbook assignment numbers as well as deadlines for reports are presented in the course schedule above. All assignments in the workbook are to be solved and submitted in electronic form to the teacher's e-mail.

The report on the assignment will take the form of teacher-student and group discussion in workshops. Oral discussions on the workbook assignments include teacher's questions, presenting conclusions and substantiation of the results.

Course Structure

Learning Activities	Hours
Lectures	16
Practice sessions / Seminars	18
Self-study Assignments	110
Final Exam (including preparation)	36
Total study hours	**180**

Course Outline

Week	Lectures	Practice sessions / Seminars	Assignments	Hours
1-2	Lecture 1 Fundamentals of Project Management Lecture 2 Project Scope Management	Workshop 1 Project financial evaluation models Workshop 2 Quantitative risk assessment of the project	Workbook p.3 – 5 Assignment A Workshop 1 Workbook p.5 – 10 Assignment B print out by Workshop 2	50
3-9	Lecture 3 Project Time Management Lecture 4 Project Cost Management Lecture 5 Project control and monitoring	Workshop 3 Project planning and structuring Workshop 4 Arrow Diagramming Method (ADM) Precedence Diagramming Method (PDM) Workshop 5 Critical Path Method (CPM) Workshop 6 Program Evaluation and Review Technique (PERT) Workshop 7 PERT / COST models Workshop 8 Development of support project plan Workshop 9 Project closing and impact evaluation. Earned Value model	Workbook p.10 – 12 Assignment C print out by Workshop 3 Workbook p.12 – 16 Assignment D print out by Workshop 4-5 Workbook p.16 – 21 Assignment D print out by Workshop 4-5 Workbook p.21 – 24 Assignment E print out by Workshop 6 Workbook p.24 – 25 Assignment F print out by Workshop 7 Workbook p.25 – 28 Assignment G print out by Workshop 6 Workbook p.28 – 33 Assignment G print out by Workshop 6	94
9	**Final Exam**			**36**
9	**Total**			**180**

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

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Assessment

By the end of the course students will be required to complete 6 workbook assignments and make oral reports on them in workshops. That contributes 60% to the final course mark.

Students are supposed to write a final paper aimed at describing a solution of a particular engineering problem. It contributes 40% to the final course mark.

Attendance Policy

Attendance at the lectures, workshops and tutorials is required.

Web page of the course

The webpage of the course https://e.sfu-kras.ru/course/view.php?id=8597

(hyperlink)

is available through E-learning SibFU web site: www.e.sfu-kras.ru. 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

1. Guide to the Project Management Body of Knowledge (PMBOK® Guide) -Fifth Edition. An American National Standard ANSI/PMI 99-001-2013. Project Management Institute, Inc., 2013. eBook. Available at SibFU electronic library, http://bik.sfu-kras.ru/ Ebscohost collection of books and monographs http://eds.b.ebscohost.com/eds/

2. John M. Nicholas. Herman Steyn. Project Management for Business, Engineering, and Technology: Principles and Practice. Fourth edition published 2012 by Routledge 2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN.eBook. Available at SibFU electronic library. http://bik.sfu-kras.ru/ Ebscohost collection of books and monographs. http://eds.b.ebscohost.com/eds/

3. Financial Analysis of a Project: a textbook / V.Maslovskiy, S.Globa, N.Butakova, V.Suray. – Krasnoyarsk: Siberian Federal University, 2016. -245 pp. eBook is available at http://catalog.sfu-kras.ru

4. Project Management: workbook/ V.Maslovskiy, O.Almabekova. – Krasnoyarsk: SiberianFederal University, 2016. -36pp.

5. Project Management: workbook assignments/ V.Maslovskiy, O.Almabekova. – Krasnoyarsk: Siberian Federal University, 2016. -45pp.

Facilities, Equipment and Software

- Monoprocessor computer with ACPI;
- Operating system: Microsoft Windows XP Professional; Service Pack 3
- Type of central core: Intel Celeron D 331, 2666MHz (20×133);
- Motherboard: Asus P5P800-VM;
- DIMM1: Hexon Tech: 1 Гб PC3200 DDR SDRAM;
- Video adapter: Intel(R) 82865G Graphics Controler (96Mb);
- Total space: HDD 74,5 Gb
- Established programmes:
- Internet Explorer;
- DirectX;
- 7-Zip 4.58 alpha 3;
- Foxit Reader;
- Free Commander 2007.10a;
- ImgBurn;
- K-Lite Codec Pack 3.8.0 Full;
- Microsoft Office Enterprise 2007;
- Microsoft Office Project Professional 2007;
- Symantec Endpoint Protection;
- Minor presentation set.