

AL-FARABI KAZAKH NATIONAL UNIVERSITY
Faculty of chemistry and chemical technology
**Department of Analytical, Colloid Chemistry and Technology of Rare
Elements**

Final exam program for the discipline
UPHI 7301 - Project management for chemistry engineers
UPHT 7301 - Project management for chemistry technologists

Educational program:
8D07102 "Chemistry engineering"

The final exam program for the discipline is compiled by

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Reviewed and recommended at the meeting of the Department of ACC&TRE

February, 28, 2024, Protocol № 9

Head of the department

Argymbayeva A.M.

(signature)

Introduction

Exam format: the student on the exam schedule takes an exam on an online platform (Univer system) by filling in the answer fields to the questions of an automatically generated exam ticket.

The exam form is written.

Exam platform: ИС Univer (<https://univer.kaznu.kz/>).

Exam type - online

Control of the passing of testing - An automatic proctoring system or proctor supervises the passing of the exam.

Test duration: 3 questions, 3 hours.

On the exam in this discipline, the following types of questions are encountered (*short description of questions*)

Multiple choice - the student chooses an answer to a question from several options offered to him, and the questions may suggest one or several correct answers at once;

Closed Answers are very flexible questions consisting of text, directly into which the answers are inserted. This type of question can include long and short answers, numeric, and multiple choice.

Numeric - for performing computational operations, the numerical answer can have a specified interval of the maximum permissible error of deviation from the correct value.

Topics for which test tasks will be drawn up (*the program of the course*)

1. Basic definitions of project management.
2. "Project management standards, Kazakhstan project management standard ISO 21500:2014".
3. Development of organizational structure of the training project.
4. Determination of external factors influencing the project.
5. Project life cycle and phases. Consideration of examples in the field of chemical engineering.
6. Development of a project cycle for educational projects.
7. Project surrounding.
8. Development of a brain map for the project.
9. Process groups and Project Management Knowledge areas.
10. Dividing the project into phases and defining the project gateways.
11. Project integration management.
12. Development of the Charter of the training project.
13. Stakeholder management.
14. Filling in the matrix with the stakeholders of the training project.
15. Project resource management.
16. Determination of HR needs for training projects by filling in the RACI matrix.
17. Project Scope Management. Consideration of examples from chemistry engineering.
18. Development of the WBS (Work Breakdown Structure) training project.
19. Project time management.

20. Development of the project schedule using the PDM (Precedence Diagramming) method.
21. Identification and discussion of the applicability of the PDM for projects in the field of chemistry engineering.
22. Project cost management.
23. Solving problems on the application of the earned value method (EVM).
24. Identification and discussion of the applicability of the earned value method for projects in the field of chemistry engineering.
25. Project risk management.
26. Consideration of risks in the field of chemical engineering.
27. Identifying risks in training projects and performing a qualitative risk analysis.
28. Project quality management.
29. Revealing defects in a training project using the Pareto method.
30. Project procurement management.
31. Identification of procurement needs in training projects and filling out the procurement plan.
32. Solving problems to find the point of total consumption in purchases, using PTA formula.
33. Project communications management.
34. Identification of communication needs in the project and filling in the communication matrix.

Rules for conducting the exam form

The procedure for passing the exam:

1. According to the exam schedule, you must go to the site "<https://univer.kaznu.kz/>".
2. You can get your login and password in the University system.
3. Generation of a ticket for each student is made automatically.
4. The exam begins with compulsory proctoring: a laptop or home computer with a webcam is required. If it is not available, you can use the smartphone camera, for example, with the "DroidCam client" application.
5. Upon completion of the exam, you must click the "Finish" button.

Student instruction

During the exam, you must comply with the following requirements:

1. It is forbidden to use items concealing the identity (masks, etc.)
2. If the description does not indicate additional materials, then you can only use the keyboard and the mouse to work in the editor of MS Word program during the exam. It is forbidden to open other tabs, run other programs, use the phone, other devices and objects, including dictionaries, calculators, e-books, etc.
3. If the use of unauthorized materials or other prompts by students is found, or identification marks (such as the student's full name, special symbols and designations) are left in the student's work, the exam may be canceled.

Evaluation policy (*a brief description of the assessment*)

Each ticket contains 3 questions, the answers to which are scored as follows:

- 1 question - 40 points
- 2 question - 35 points

3 question - 25 points

A total of 100 points.

Recommended Literature Sources for Exam Preparation (provides a list of literature on the discipline to prepare for the final control)

- Lectures materials (Project Management Course Presentations taught by Uali Kh.N.)

- Lock, Dennis, Complete Guide to Project Management, Cahnrs Book Division, Boston, and Gower Press, Ltd., London, 1968

- Kim Heldman, PMP, Project Management JumpStart, Sybex, 3rd Edition, 2011

- A Guide to the Project Management Body of Knowledge: PMBOK® Guide (Sixth Edition), PMI, 2017

- Harold Kerzner, Ph.D., Project Management: A Systems Approach to Planning, Scheduling, and Controlling, Wiley, 11th ed., 2013

- Scott Berkun, Making Things Happen: Mastering Project Management, O'Reilly Media; Revised edition, 2008

- Terry Schmidt, PMP, Strategic Project Management Made Simple – Practical Tools for Leaders and Teams, Wiley; 1 edition, 2009

- Jack Ferraro, Project Management for Non-Project Managers Hardcover, AMACOM; First edition, 2012

RUBRICTOR FOR CRITERIAL EVALUATION OF FINAL CONTROL

(for standard oral/written forms)

Discipline: Project management for chemical engineers.

Form: written. Platform: IS Univer. Format: online

Block	Criteria	"Excellent" 90-100%	"Good" 70-90%	"Satisfactory" 50-70%	"Unsatisfactory" 0-49%
1	Understanding theories and concepts of professional project management (PM)	Deep understanding of the theories and concepts of professional PM. Relevant and relevant references (citations) to key sources are provided.	Understanding of theories and concepts of professional management. Links (citations) to key sources are provided.	Limited understanding of theories and concepts of professional management. Limited references (citations) to key sources are provided.	Superficial understanding/lack of understanding of theories and concepts of professional management. Relevant references (citations) to key sources are not provided.
2	Application of the completed PM tools in an educational project	All PM tools covered in class were applied in the educational project. The connections between PM theory and practice are clearly shown.	Almost all of the PM tools covered in class were used in the educational project. The connections between PM theory and practice are clearly shown.	Limited use of the PM tools covered in class was applied in the educational project. The connections between PM theory and practice are presented satisfactorily.	The PM tools covered in class were poorly applied in the educational project. The connections between PM theory and practice are unclear and unclear.
3	Proposed innovations and additional tools, knowledge and materials	The educational project used at least 4-5 new PM tools from additional sources. 2-3 interesting ideas and new approaches to management programs were proposed. Relevant and relevant references (citations) to key sources are provided.	The educational project used at least 4-5 new PM tools from additional sources. 2-3 interesting ideas and new approaches to management programs were proposed. Relevant and relevant references (citations) to key sources are provided.	The educational project used at least 4-5 new PM tools from additional sources. 2-3 interesting ideas and new approaches to management programs were proposed. Relevant and relevant references (citations) to key sources are provided.	The educational project used at least 4-5 new PM tools from additional sources. 2-3 interesting ideas and new approaches to management programs were proposed. Relevant and relevant references (citations) to key sources are provided.