

College of Engineering

Department of Civil Engineering

جامعة  
الملك سعود  
King Saud University



## GE 402 Engineering Projects Management

**Credit and Contact hours**

3 / 3 (Lectures), 1 (Tutorials), 0 (Laboratory)

**Required, or Elective**

Required for a BSCE degree

**Course Description**

Introduces techniques that provide rational solutions to a range of project management decisions encountered in engineering projects. Students are expected to gain a detailed understanding of some; of the techniques, tools and processes available and their application in starting, planning, managing and finishing engineering projects; The course covers project management fundamentals including projects life cycle, project planning and scheduling techniques, cash flow forecasting, performance evaluations, estimating and cost control; project organizations; Introduction to risk management.

**Prerequisites or Co-requisites**

None

**Course Learning Outcomes**

Students completing this course successfully will be able to

Course Learning Outcomes	Related Student Outcomes (SO)
<b>CLO1.</b> Identify the ethical and professional responsibilities of project managers and other stakeholders through reviewing real life projects.	<b>SO4</b>
<b>CLO2.</b> Perform the techniques for project time, cost estimation and control for real-life projects (through a project)	<b>SO1</b>
<b>CLO3.</b> Use the different available planning, scheduling, techniques to develop projects schedule and determine their duration using commercial software. (through a project).	<b>SO1</b>
<b>CLO4.</b> Use the procedures of resource levelling and allocation in real-life projects.	<b>SO1</b>
<b>CLO5.</b> Demonstrate the course project results to instructors, students, and professionals.	<b>SO3</b>

<b>Student Outcomes related to this Course</b>	<p><b>SO1.</b> an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics, and using modern engineering tools [ABET 1].</p> <p><b>SO3.</b> an ability to communicate effectively with a range of audiences. [ABET 3].</p> <p><b>SO4.</b> an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts [ABET 4].</p>																									
<b>Topics Covered</b>	<table border="1"> <thead> <tr> <th data-bbox="470 573 1254 651">List of Topics</th> <th data-bbox="1254 573 1450 651">Related CLOs</th> </tr> </thead> <tbody> <tr> <td data-bbox="470 651 1254 696">1. Introduction to project management environment.</td> <td data-bbox="1254 651 1450 696">CLO1</td> </tr> <tr> <td data-bbox="470 696 1254 786">2. Project managers' roles and responsibilities. Organizational approaches and project stakeholders.</td> <td data-bbox="1254 696 1450 786">CLO1</td> </tr> <tr> <td data-bbox="470 786 1254 875">3. Project life cycle (Phases) and project charter. Project planning and work breakdown structure (WBS).</td> <td data-bbox="1254 786 1450 875">CLO1</td> </tr> <tr> <td data-bbox="470 875 1254 920">4. Cost estimation.</td> <td data-bbox="1254 875 1450 920">CLO2</td> </tr> <tr> <td data-bbox="470 920 1254 987">5. Project Planning with bar chart.</td> <td data-bbox="1254 920 1450 987">CLO3</td> </tr> <tr> <td data-bbox="470 987 1254 1032">6. Time-cost trade-off.</td> <td data-bbox="1254 987 1450 1032">CLO2</td> </tr> <tr> <td data-bbox="470 1032 1254 1077">7. Resource leveling and allocation.</td> <td data-bbox="1254 1032 1450 1077">CLO4</td> </tr> <tr> <td data-bbox="470 1077 1254 1267">8. Project monitoring and control: - Reporting. - Time control. - Cost control.</td> <td data-bbox="1254 1077 1450 1267">CLO2</td> </tr> <tr> <td data-bbox="470 1267 1254 1312">9. Cash flow forecasting.</td> <td data-bbox="1254 1267 1450 1312">CLO2</td> </tr> <tr> <td data-bbox="470 1312 1254 1357">10. Project evaluation and termination.</td> <td data-bbox="1254 1312 1450 1357">CLO1</td> </tr> <tr> <td data-bbox="470 1357 1254 1402">11. Software applications in project management</td> <td data-bbox="1254 1357 1450 1402">CLO5</td> </tr> </tbody> </table>		List of Topics	Related CLOs	1. Introduction to project management environment.	CLO1	2. Project managers' roles and responsibilities. Organizational approaches and project stakeholders.	CLO1	3. Project life cycle (Phases) and project charter. Project planning and work breakdown structure (WBS).	CLO1	4. Cost estimation.	CLO2	5. Project Planning with bar chart.	CLO3	6. Time-cost trade-off.	CLO2	7. Resource leveling and allocation.	CLO4	8. Project monitoring and control: - Reporting. - Time control. - Cost control.	CLO2	9. Cash flow forecasting.	CLO2	10. Project evaluation and termination.	CLO1	11. Software applications in project management	CLO5
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<b>Textbook(s) and Other Required Material</b>	Meredith, J. R., Mantel Jr, S. J., & Shafer, S. M. (2013). Project management in practice. Wiley Global Education																									
<b>Grading System</b>	Two Mid-term exams            40 % Quizzes and Projects            15% Assignments                        5% Final Exam:                         40%																									
<b>Instructors</b>	Dr. Fahad Bin Welah (2A14), email: <a href="mailto:bfahad@ksu.edu.sa">bfahad@ksu.edu.sa</a> Dr. Abdulrahman Bin Mahmoud (2A50), email: <a href="mailto:Abinmahmoud@ksu.edu.sa">Abinmahmoud@ksu.edu.sa</a>																									
<b>Date of Review</b>	November, 2020																									