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## Project Management Course Definition Document

**Course:** Project Management – P M Master qualification and specialization in the Department of Building Information Modeling -

**By: Dr . Mohammed Shaaban**

**Number of sessions:** 12, (24) hour

normal:

Course summary : Today's business environment, including the projects environment, is characterized by intense competition, rapid change, and increased knowledge and skills. The complexity and size of projects are constantly increasing as a result of the great scientific and technical development and the increase in global demand for project investments, and therefore it was necessary to implement effective project management to keep pace with the great developments in the world of projects in order to achieve its goals in proportion and in line with the new environment in which they exist in the framework of business organizations, demonstrating the importance of project management in this era to achieve the goals of these business organizations, which will help good project management on the successful response to the challenge mechanisms that Ts m business environment now.

Article code: PM

**Grade.....**

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### Article chapters:

Chapter number	Chapter title	Brief explanation
1	<b>Introduction to project management</b>	Definition of the most important terms in the project management literature.
2	<b>Project planning and stages</b>	How to develop an executional /operational plan for the project and its requirements.
3	<b>Project Planning Tools</b> Network Planning	Definition of time planning methods :Bar/Gantt chart and critical path method CPM.
4	<b>Resources in the project</b>	Definition of the types of resources in projects and their relationship to time.
5	<b>Project cost and network crashing</b>	Defining the types of costs and their relationship to time and the balance between them in project(Time-cost tradeoff).
6	<b>Project finance</b>	Clarify the funding mechanism and funding program.
7	<b>Using PERT method in projects</b>	Explanation of uncertainty and project implementation possibilities
8	<b>Project Linear scheduling for repetitive works / projects</b>	Introducing the most important theoretical and practical foundations of the linear method in implementing projects / repetitive works
9	<b>Linear scheduling method Line of Balance- LOB For repetitive works / projects</b>	Explanation of the concept of the equilibrium method in the linear method of implementing projects and repetitive works.
10	<b>4 D Scheduling for projects within the BIM environment / 4D project scheduling</b>	Explanation of the mechanism of integrating the scheduling programs - Primavera, for example, and the programs used in the BIM system - Rivet, for example
11	<b>ISO 21500 Project Management System Manual</b>	Explanation of the international system of ISO21500 project management

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### Outcomes:

Learning Outcomes	Learning Outcomes	Synchronous sessions	Assignments/ projects	Exam
The student is provided with the necessary knowledge, concepts and terminology related to project management practices in business organizations	<b>LO1</b>	√	√	√
The ability to understand the project, its constraints, and its objectives / requirements.	<b>LO2</b>	√	√	√
The ability to develop an integrated plan) in timely and financially (to manage the project in the organization in different ways according to the nature of the project.	<b>LO3</b>	√	√	√
Ability to follow up/track the implementation of the project plan.	<b>LO4</b>	√	√	√
Contribute to suggesting solutions to evaluate the deviation of the project implementation plan.	<b>LO5</b>	√	√	√
Understanding the scheduling mechanism in the BIM environment	<b>LO 6</b>	√	√	√
Understanding the ISO project management system	<b>LO 7</b>	√	√	√

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### Evaluation criteria:

Learning Outcomes	Evaluation Criteria To achieve the results, the student must demonstrate the capabilities in:
LO1	1- Re-read the most important terms and concepts addressed by the lecturer in the lecture. 2- It raises inquiry questions about the meaning of each term / concept and how it relates to reality. 3- He reviews the theories and models related to the terms and concepts that were circulated in the lecture. 4- He writes down all the ideas he has seen in a special booklet that is easy to refer to when needed.
LO2	1- He reviews the method and mechanism of identifying the project from the reality of an actual project in his institution that he intends to consider as a case study. 2- He collects and categorizes information about his project considered as a case study. 3- He reviews the requirements and objectives of the projects and writes down the requirements and objectives of his project as a case study. 4- He reviews project restrictions/constraints and applies them to his project as a case study. 5- He reviews the available information about his project and fills in deficiencies in different ways.
LO3	1- Learn how to plan and prepare for a project plan/baseline. 2- He reviews the information and data required for the plan (time and financial, including project resource information) using the appropriate method.

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	3- He uses the appropriate tool / method to develop an integrated /basic/ plan for his project according to its nature. 4- It sets the appropriate criteria for the approval of the project plan and its follow-up .
<b>LO4</b>	1- Learn the mechanism of following up /tracking the project plan financially and in timely in proportion to the contract value ( project budge) and its duration. 2- He learns the concept of evaluating the timely and financial performance and its different methods for his project. 3- Recognize the approved evaluation criteria - for example : Earned value - in the different evaluation systems. 4- Recognize the mechanism of plan modification ( rescheduling and planning) to accommodate changes in the project
<b>LO5</b>	1- Recognize the mechanism of evaluating the plan. 2- Recognize the mechanism of taking corrective actions to prevent the project from deviating from its basic plan/baseline. 3- He chooses the appropriate method for developing the managerial skills of his project team.
<b>LO6</b>	1. Recognizes the term 4D Scheduling for projects. 2. Learn how to schedule projects and follow them up based on the software used in project management and the software used in the BIM environment.
<b>LO 7</b>	1. Recognize the term and the ISO system(ISO21500) project management 2. Recognize the components of the project management manual according to the ISO 21500 system.

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### Instructions:

**Generating Evidence :** The student individually prepares a brief report in which he demonstrates his ability to understand the previous outcomes, and this is before he takes the exam and deals with:

- Problems facing project management in his organization or department
- How does the project management contribute to solving or reducing these problems and thus achieving its objectives and required quality.

### References

#### First - Arabic books:

1. Ibrahim Abdel Salam “ ‘**Evaluation and review of projects using the computer** ’ ” ‘Journal of the Institute of Public Administration, p ‘ 52 .Rabi’ al-Akhir ‘1407 p36 .
2. Al-Jar Allah, Muhammad bin Ibrahim : **Construction Management** ‘King Saud University Publications, Deanship of Library Affairs 1413 ‘AH.
3. Knowledge Management Manual Almh Roat (PMBOK® GuideFifth Edition, Arabic Version ‘ 2013 ‘Project Management Institute, America‘PMI ‘ the number international normative for the book 978-9 ) NS( -1-935589-67- .
4. Al-Sammak, Abdul Wahab Kamel " ‘**Management and Development of Software Projects** 326 " p., Publications of the Research Center, Institute of Public Administration, Riyadh, Saudi Arabia 1429 ‘AH 2008- AD.
5. Construction Costs Manual, Third Edition 1428 AH Construction Index, 3ed edition, 2007, Publication of the Chamber of Commerce and Industry in Riyadh.
6. Fenis, Saeed bin Mushabab Saad " ‘Specialized Construction Management 703 ‘ " p ) .translation ( by Donald Barry, Boyd Paulson, Research Center Publications, Institute of Public Administration, Riyadh, Saudi Arabia 1426 ‘AH 2005- AD.
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9. Shaaban, Muhammad Hassan, Al-Judy Maher ‘**Project Organization and Management, Theoretical Part** ‘ Publications - Al-Baath University - Ministry of Higher Education, Syria.1997 ‘

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10. Shaaban, Muhammad Hassan, Al-Judy Maher ,**Project Organization and Management ,Practical Part** , Publications - Al-Baath University - Ministry of Higher Education, Syria.2003 ,
11. Shaaban, Muhammad Hassan, Al-Judy Maher ,**Project Organization and Management, Part Two - Theoretical Section**, Publications - Al-Baath University - Ministry of Higher Education, Syria.2004 ,
12. Shaban, Muhammad Hassan, Al-Judy Maher ,**Project Organization and Management, Part Two - Practical Section**, Publications - Al-Baath University - Ministry of Higher Education, Syria.2004 ,

#### Second - foreign books:

- Chang, CM; **Engineering Management Challenges in the New Millennium** , Upper Saddle river, N , J, Pearson Prentice Hall, 526p;2005 .
- Goncalves Marcus," Managing Virtual Projects"; McGraw-Hill, 2005;USA HAROLD KERZNER, **PROJECT, MANAGEMENT, BEST PRACTICES** , Achieving Global Excellence,THIRD EDITION, Copyright © 2014 by International Institute for Learning, Inc., New York, New York. All rights reserved. Published by John Wiley & Sons, Inc., Hoboken, New Jersey .
- Harika Singh , Types of 4D BIM Construction Scheduling Techniques, 2020. , [www.TrueCADD.com](http://www.TrueCADD.com) ,
- Hagit Landman , " **Enterprise Project management Using Microsoft® Office Project Server 2007"** - Best Practices for Implementing an EPM Solution, J. Ross Pub.www. jrosspub.com,2008
- Humphreys, Gray C.2002. **Project Management Using Earned** .Orange, CA: Humphreys &Associates
- Ignacio Manzanera ,**PLANNING & SCHEDULING, REFERENCES** , CCC, MBA, ME, CPM, 2013
- JP Zhang 's store , Zz for Hu , BIM- And 4D-based versions Integrated Solution And Management Of analysis All For Structural And conflicts page safety scanner Problems During Construction: 1. Principles And Methodologies,, Automation In Construction 20 (2011) 155 - 166 .
- INTERNATIONAL STANDARD, ISO 21500, Guidance on project management , First edition, 2012-09-01
- Kerzner H.; **Project Management; a system approach to planning, scheduling, and controlling**; 9<sup>th</sup> edi.John Wiley & Sons, Inc , USA, 2006 .

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- Linda Main, " **CPM and PERT in Library Management** ", Special Library Association , Winter , 1989, p. 40
- Moiz Tarar , **Impact of 4D Modeling on Construction Planning** Process, Master of Science Thesis in the Master Program of Design and Construction Project Management , Department of Civil and Environmental Engineering, Division of Construction Management, CHALMERS UNIVERSITY OF TECHNOLOGY, Göteborg , Sweden 2012 ,Master's Thesis 2012:27
- Project Management Institute. ( 2017 ). *A guide to the project management body of knowledge (6<sup>th</sup> ed .).* Newtown Square, PA: Project Management Institute.
- Robert K. Wysocki and Rudd McGary , Effective **Project Management: Traditional, Adaptive, Extreme** 3rd Edition, **ISBN:** 2003, 0471432210 , PMI Books/Effective Project Management.htm.

### **Third - websites related to the course:**

1. [www: pmi.org](http://www.pmi.org)
2. [www.prince-officialsite.com](http://www.prince-officialsite.com)
3. [https://www. prince2 .com/uk](https://www.prince2.com/uk)
4. <http://www.mgmt-technologies.com/evmtech.html>
5. <http://evm.nasa.gov/>
6. [the https : //www.pepperconstruction.com/](https://www.pepperconstruction.com/)
7. <http://cife.stanford.edu/Mission/index.html>

**Virtual meetings :** The virtual meetings continue concurrently with the simultaneous sessions and listen to all the requirements of the students.

**Suggestions for reading :** mentioned above