Syrian Arab Republic
Ministry of Higher Education
Syrian Virtual University
Technical Institute of Engineering Management and Digitalization

Course Outline Document: Basics of Project Management

Course: Basics of Project Management (BMN401)

Technical Institute for Engineering Management and Digitization

Dr.Mustafa Kamal Badrah & Eng. Raghad Safour & Eng. Hadi Khair Bek

Number of sessions: 12 sessions (2 hours each)

Course Summary:

The Basics of Project Management course aims to provide a comprehensive overview of project management, focusing on developing the essential skills and knowledge required to manage projects effectively across various fields. The course covers the definition and importance of project management, the project life cycle, and core principles such as scope, time, cost, quality, human resources, risk, and communications. It also addresses the phases of construction projects, from planning and design to execution, delivery, and risk management. Additionally, the course includes the classification of project types and construction work, the formation and management of project teams, and performance and communication management.

The course strives to enable students to understand and master the fundamentals and concepts of project management, apply principles and tools effectively, and enhance skills in forming and managing work teams. The teaching methods include theoretical lectures, case studies, practical exercises, and applied projects. Evaluation consists of theoretical exams, assessments of practical projects, and active participation in discussions and group exercises. The goal is to prepare students to practice project management effectively and efficiently to achieve success in diverse and dynamic work environments.

Course Code: BMN401

Classes: …….

❖ Course Chapters:

Chapter Number	Chapter Title	Brief Description
1	Introduction	The lecture will cover the concept of project management and its importance in achieving goals successfully. We will define a project as a temporary endeavor with specific characteristics and discuss the factors that contribute to its success or failure. We will review the role of the project manager in planning and execution and clarify what project management entails as a comprehensive organizational process. Finally, we will discuss the objectives of project management in achieving efficiency and effectiveness and minimizing risks.
2	Project Definition	The lecture will address how to define the problem or opportunity that the project aims to address and then set clear objectives to achieve it. We will outline the project scope to ensure focused efforts and explain how to draft a statement of work to guide activities. We will discuss prioritizing the project to allocate resources effectively and review the work breakdown structure for task distribution, using responsibility matrices.
3	Quantity Takeoff	In this lecture, we will cover how to accurately read and analyze Quantity Takeoff items and understand the specifications related to each item. The process of linking these items to the project's technical specifications will be explained to ensure that the required standards are met during execution. Additionally, we will explore the key software tools used in Quantity Takeoff.
4	Price Analysis	In this lecture, we will explore the fundamental context and purpose of conducting Price Analysis in the construction sector. We will examine the importance of price analysis in determining the actual cost of any project item. Additionally, we will understand the relationships involved in calculating direct and indirect costs, as well as the significance of breaking down items into their essential components.
5	Scheduling	In this lecture, we will begin with an introduction to the importance of planning in project management. We will cover the concept of planning and its fundamentals, then move on to evaluating the project's logic to ensure its feasibility. We will discuss how to prepare the initial schedule and use Gantt charts to visually represent the timeline. We will review the project network diagram as a tool for analyzing the sequence of activities and explain the critical path method for identifying critical activities.

6	Organizational Structure	In this lecture, We will review different types of project organizational structures and their impact on project management. Finally, we will focus on how to choose the appropriate organizational structure that aligns with the project's nature and requirements.
7	Project Team Management	We will discuss the five-stage model of team development in this lecture, as well as how to improve efficiency and communication to create a high-performing project team.
8	Project Closure	We will go over several project closure techniques and talk about actions connected to the project's methodical closure. Lastly, in order to assess the degree to which goals have been met and derive lessons for next initiatives, we will discuss project evaluation.
9	Engineering Documents	In this lecture, we will begin with an introduction to the importance of engineering documents in organizing and managing projects. We will explore the different types of project documents and their roles at each stage. Next, we will cover preliminary study documents that outline the requirements and fundamental concepts of the project and conclude with final study documents that include technical and execution details to ensure the successful completion of the project.
10	Execution Methods	In this lecture, we will cover methods for executing engineering projects, starting with the various approaches to contracting these projects. We will discuss direct execution by the owner, contracting through public tenders, and the process of requesting price quotations to identify the best offers. Finally, we will review the competition method as a means to select the best design or proposal for project execution.

❖ Learning Outcomes:

Learning Outcomes	Learning Outcomes	Assignment (Project)	Synchronous Sessions	exam
LO1	• Understand the definition of project management and its role in achieving goals successfully. • Comprehend the factors that affect the success or failure of a project and how to address them to ensure goal achievement. • Learn about the responsibilities of the project manager in planning and execution, and how to manage the project to achieve its objectives. • Understand the goals of project management, such as achieving efficiency and effectiveness and minimizing risks to ensure project success.	√	√	√
LO2	• Learn how to identify and analyze the problem or opportunity that the project aims to address. • Acquire the skill to set specific and measurable objectives to ensure efforts are directed toward achieving the desired results. • Understand how to clearly define the project scope to determine what will be included and excluded, which helps in focusing on core tasks. • Gain skills in using responsibility matrices to clarify roles and responsibilities for individuals and teams involved in the project.	√	√	√

L03	• Understanding the concept of quantity surveying and its importance in engineering projects. • Learning the basics of reading engineering drawings and plans that affect quantity surveying. • Learning how to prepare and organize bills of quantities based on project requirements. • Familiarizing with the key software and applications used in quantity surveying. • Learning how to read and analyze the items of the bill of quantities and the specifications for each item in the project.	√	√	√
L 04	• Understanding the basic context and objective of price analysis in the construction sector. • Recognizing the importance of price analysis in determining the true cost of any project item. • Understanding the relationships between calculating direct and indirect costs.	√	√	√
LO5	• Understand the importance of planning in project management, including how to define objectives, resources, and the timeline to ensure success. • Acquire the skills necessary to create an initial schedule that	√	√	√

	specifies start and end dates for key project activities. • Understand how to prepare a network diagram to analyze the sequence of activities and their relationships, which helps in managing workflow and scheduling.			
LO6	• Identify the different types of project organizational structures, such as functional, project, and matrix structures, and understand how each affects project management. • Acquire the skill to select the most suitable organizational structure for the project based on the nature of the project, the scope of work, and management requirements, to ensure efficiency and effectiveness in project management.	√	√	√
LO7	• Understand the five-stage model of team development (Forming, Storming, Norming, Performing, and Adjourning) and how to use it to build a high-performing project team. • Learn strategies to enhance collaboration and efficiency within the team to achieve optimal performance and meet project goals effectively.	√	√	√
LO8	• Acquire knowledge about the key activities related to the systematic closure of the project, including finalizing accounts, documenting results, and delivering the project.	√	√	√

LO9	• Understand Types of Documents: Ability to identify the different types of engineering documents used in projects. • Document Management: Learn how to organize and manage engineering documents. • Using Documents: Acquire the skills needed to utilize these documents during the planning, design, and execution phases.	√	√	√
L10	• Understand the different types of methods for executing engineering projects. • Acquire the ability to organize and plan engineering projects using appropriate methods to achieve the desired objectives. • Understand the steps involved in contracting engineering projects. • Understand the direct execution method.	√	√	√

❖ Evaluation Criteria:

Learning Outcomes	To achieve the learning outcomes, the student must demonstrate competence in:
LO1	1. Ask inquiry-based questions about the meaning of each term/concept and how to relate it to real-world situations. 2. Review theories and models related to the terms and concepts discussed in the lecture. 3. Record all the insights gathered in a dedicated notebook for easy reference when needed.
LO2	1. Submit a paper that explains one of the project management concepts. 2. Demonstrate skill in using strategies and techniques to build an effective team, including enhancing communication and collaboration and motivating members to achieve common goals.
LO3	The ability to calculate the quantities of elements related to structural works.
L04	1. The ability to analyze the prices of elements related to structural works. 2. The ability to use the relationships for calculating direct and indirect costs.
LO5	1. Review the proposed project as a case study and pose questions about it. 2. Collect and organize information about the project considered as a case study. 3. Identify software tools that support the project. 4. Document the requirements and objectives of the project as a case study. 5. Review the available information about the project and fill in any gaps using various methods. 6. Create a timeline for the project.
LO6	1. Identify different types of organizational structures. 2. Be able to distinguish between organizational structures. 3. Understand the advantages and disadvantages of each type of organizational structure.
LO7	1. Be familiar with the stages of team development. 2. Be able to define the characteristics of each stage of team formation. 3. Have the ability to evaluate the project team and identify conditions that enhance productivity.

LO8	1. Be capable of working during the project closure phase. 2. Be able to determine the type of project closure.
LO9	1. Be able to distinguish between different types of engineering documents. 2. Have the ability to use and understand the importance of various types of documents. 3. Be able to provide practical examples of engineering documents.
L10	1. Ability to select the appropriate execution method. 2. Analyze the quality of execution and relate it to the method used for project implementation.

Guidelines

Generating Evidence: The student must individually prepare a brief report demonstrating their understanding of the previous learning outcomes before taking the exam.

The report should cover**:**

One of the topics suggested by the course instructor related to one of the concepts explained in the syllabus**.**

References:

1. Arabic References:

1. د. محمد ماهر الجودي –د. محمد شعبان، تنظيم المشروعات وإدارتها جامعة البعث،1997-1998.
2. د.مصطفى كمال بدرة، المواصفات والكميات، كلية الهندسة المعمارية، جامعة ايبلا الخاصة،2020-2021.
3. د. محمد رشاد الجمعة- تنظيم وإدارة المشروعات جامعة حلب ،2012
4. د.السيد عبد الفتاح القصبي، حساب كميات الأعمال الإنشائية، دار الكتب العلمية للنشر والتوزيع بالقاهرة،2008

2. English References:

1. Guide, A. (2001). Project management body of knowledge (pmbok® guide). In Project Management Institute (Vol. 11, No. 1).