زانکۆی پۆلیتەکنیکی هەولێر
EPU
ERBIL POLYTECHNIC UNIVERSITY
1996

Kurdistan Region Government
Ministry of Higher Education
and Scientific Research
Erbil Polytechnic University

Module (Course Syllabus) Catalogue

2023-2024

College/ Institute	Erbil Technology College
Department	Information and Communication Technology Engineering
Module Name	Engineering Management
Module Code	ENM604
Degree	Technical Diploma ☐ Bachelor ✓ High Diploma ☐ Master ☐ PhD ☐
Semester	6
Qualification	MSc
Scientific Title	Assistant Lecturer
ECTS (Credits)	4
Module type	Prerequisite ☐ Core ✓ Assist. ☐
Weekly hours	3	
Weekly hours (Theory)	(2) hr Class	(69) Total hrs Workload
Weekly hours (Tutorial)	(1) hr Class	(39) Total hrs Workload
Number of Weeks	16	
Lecturer (Theory)	Salar Ismael Ahmed	
E-Mail & Mobile NO.	Salar.ahmed@epu.edu.iq 07504685776	
Lecturer (Tutorial)	Salar Ismael Ahmed	
E-Mail & Mobile NO.	Salar.ahmed@epu.edu.iq 07504685776	
Websites	**www.epu.edu.iq**	

Course Book

Course Description	This course is designed to be an overview of the primary functions of management. Emphasis is on planning, organizing, leading, controlling, and communicating. Focusing on the theory and practice of managing an organization and its resources to meet the organizational goals.
Course objectives	This module aims to provide students with an integrated set of concepts and theories for understanding the process of Management in organizations.
Student's obligation	*Cell phone* In order to avoid distracting the class or other students, I ask that you turn your cell phone off or set it to silent while in the class. If it is necessary, please excuse yourself from the classroom while on the phone. *Email Addresses:* all students are required to provide the lecturer with their functional email addresses for communication and sharing lecture materials. *Regularity:* - Students are required to attend the class on time in case of urgency; you must enter the class silently and sit as soon as you find an available seat. - -Print the lecture notes provided by lecturer before the class - Avoid being distractive or disruptive to others in the class - -Participate in class discussions - -Let the lecturer know when a subject is vague (unclear) - -Be thoughtful (prepared) when attending quiz and exam sessions. *Drinks:* Students can have a bottle of water and a cup of tea or coffee, but you must respect the hygiene of the class. Plus when the class is done, all the chairs must be seated well into their regular positions. *Discrimination & Harassment:* This classroom must be an environment that is free of discrimination and harassment based on a person's sex, race, color, age, religion, disability, ancestry, or national origin, consistent with applicable laws in the University. All students are required to respect the rights, opinions,
Required Learning Materials	Lecture notes and reading materials -Data Show (Projector) to demonstrate the materials in the lecture -Dashboard (Simple use to illustrate confusing essential subject contents)

Evaluation		Task	Weight (Marks)	Due Week	Relevant Learning Outcome
		Paper Review			
	Assignment	Homework	10%	4	
		Class Activity	2%	12	
		Seminar	8%	1	
		Report	8%	1	
		Quiz	8%	2	
		Midterm Exam	24%		
		Final Exam	40%		
		Total	100%		

Specific learning outcome:	− Know and be aware of the manager's important role in leading organizations to achieve objectives effectively in this current competitive, diverse, and dynamic environment. − Explore the interrelations between organizational structure, human resource management, technological change, and competition critically − Assess the Importance of good communication on the practice of management in organizations − Identify key concepts of marketing and production management − Explore the role of managers in the financial sector and the risks introduced to organizations by controlling and planning those criteria.
Course References:	**- Nasrat A.Madah, (2016).** *Principle of Management*, **First Edition,** Tafseer press. -William, Pride. Robert, Hughes. Jack, Kapoo. (2013).Business12 ed. (Book). Cengage Learning.

Course topics (Theory)	Week	Learning Outcome
- Management Key Concepts	1	Outcome management focuses on and tracks a client's progress over time and looks at the effectiveness of service delivery through the achievement of client successes/changes as outcomes.
- Planning	2	develop plans with relevant people to achieve the project's goals.
- Organizational Structure	3	The way an organization is structured determines how tasks are assigned, who reports to whom, what processes are in place to resolve customer concerns and complaints, and, most important, it designates the manager's span of control.
- Leadership	4	Good leadership creates employee engagement and passion, which lead to higher levels of customer loyalty, service, innovation, and ultimately profits.

- Controlling	5	statements that describe the knowledge or skills students should acquire by the end of a particular assignment, class, course, or program, and help students understand why that knowledge and those skills will be useful to them.
- Decision Making	6	Use that insight to make more effective decisions. possess a range of different perspectives on what counts as an 'effective' decision.
- Human Resource Management	7	Demonstrate an understanding of key terms, theories/concepts and practices within the field of HRM. Demonstrate competence in development and problem-solving in the area of HR Management. Provide innovative solutions to problems in the fields of HR
- Marketing Management	8	Critically evaluate the key analytical frameworks and tools used in marketing.
- Motivation	9	The success of students in achieving high learning outcomes is determined by achievement motivation
- Scheduling	10	Student will be understanding the engineering project scheduling, scheduling methods, Gannt chart, and network. Dummy Activity, Activity calculation, event calculator, PERT network, and cost slope.
Plant Location	11	Students will be able to understand and apply knowledge on factors influencing in the plat location. Market, Labour, transportation Facilities, availability of power and fuel, Availability of Row materials, Climate and Atmospheric conditions, Availability of water, Laws and Taxation, Drainage and Soil Conditions, Social and Recreation facilities.
Computer Integrated Manufacturing CIM	12	Students will be able to understand and apply knowledge on Material Resource Planning, Structure Product, Sequencing,

Questions Example Design

1. Compositional: for example:

1. most of the exam questions will be compositional as the following example:

- Define the following terms:

Goal vision mission

-list the four functions of the organization and explain one of them in details?

-Draw the steps of decision making in an organization?

-How to deal with the problem of cognitive biases in decision making?

2. True or false type of exams: for example:

   ----

1. Multiple choices: for example:

   ----

2. Gaps for example:

Ministry of Higher Education &

Scientific Research

Erbil Polytechnic University

Examination

Sixth Semester 2022-2023

Class: Third

Subject: Engineering Management

Time: 2 Hours

Date: 29-05-2023

Code: ENM604

20 Marks

Q1/ Choose True (T) or False (F) for the following, then correct the false:

1. In First-line Managers, they establish organizational goals and monitor middle managers.
2. In Organizational Structure, managers make specific choices.
3. Opportunities is one of the external environments of SWOT Analysis.
4. One of the Outsource problems, Managers lose control over output.
5. (Workers want to get a fair reward for their efforts) is one of the Expectancy Theory elements.

10 Marks

Q2/ Define the (Planning), then write types of planning with the duration for each type.

10 Marks

Q3/ Compare between (Formal Organizational) and (Informal Organizational).

10 Marks

Q4/ Define the (Decision Making Management), then write down the types of (Decision Making).

10 Marks

Q5/ Define the (Motivation), then write the (Sources of Motivation) with examples for each source.

20 Marks

Q6/ If you have the following (Table 1) in a project. Draw the (Gantt chart) and draw by (network).

Then specify the critical path and completion time.

Table 1

Activities	Time (days)
1—2	4
1—3	3
2—4	2
3—4	2
4—5	3
5—6	4

Q7/ For the PERT network in a project below (Table 2). Draw the network then compute the

Probability that the project will be

completed by time (12) weeks.

Table 2

Activity	To	Tm	Tp	Te	Var
1—2	2	4	8		
2—3	3	4	8		
1—3	2	2	3		
2—4	2	4	7		
3—4	1	3	5		

wish you all the success

Ministry of Higher Education & Scientific Research Erbil Polytechnic University	Examination	Class: Third Subject: Engineering Management Time: 2 Hour Date: 29-05-2023 Code: ENM604

Sixth Semester 2022-2023

Typical answers

Q1/ 1. F (In Top Managers, they establish organizational goals and monitor middle managers.

Or (In First-line Managers: responsible for day-to-day operation. They supervise the people performing the activities required to make the goods or service.).

2. F (In Organizational Design, managers make specific choices.

Or (Organizational Structure: formal system of task & reporting

relationships showing how workers use resources).

3. T.

4. T

5. F ((Workers want to get a fair reward for their efforts) is one of the **Equity** Theory elements).

Q2/ **Planning:**

- Is the determination of a course of action to achieve the desired results.

- Planning is the process used by managers to identify and select appropriate goals and courses of action for an organization.

Types of Planning:

1. **Long Term Plans:** The duration of long-term planning ranges from three to ten years.

2. **Middle-Term Plans:** The duration of medium-term planning ranges from one to less than three years.

3. **Short-Term Plans**: Its short-term period does not exceed one year at least.

Q3/

Formal Organizational	Informal Organizational
• Formal organization refers to the structure of relationships built up by the top management realize the objectives. • Formal organization authority, accountability, lines of command, and position and authority are clearly defined and declared.	• Informal organization refers to the network of personal and social relationships which arise spontaneously. • when people working together interact on personal whims.

Q4/ Decision Making Management:

Is the process by managers that is selecting a course of action from among available alternatives.

❖ **Programmed Decisions:** routine, almost automatic process.

- Managers have made decision many times before.

- This leads to the formulation of rules, procedures, and policies.

❖ **Non-programmed Decisions:** unusual situations that have not been often addressed.

- No rules to follow since the decision is new.

- Managers use skills and subjective judgment to solve the problems.

Q5**/ Motivation:**

- Motivation is an art by which managers promote productivity in their employees.

- Motivation, "as the complex of forces starting and keeping a person at work in an organization".

Sources of Motivation:

1- Positive Motivation:

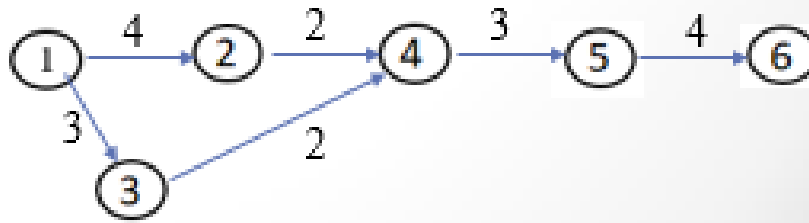- For example-promotion, praise, recognition, perks and allowances, etc.

2- Negative Motivation:

- For example- demotion, transfer, fines, penalties.

Q6/**Gantt Chart:**

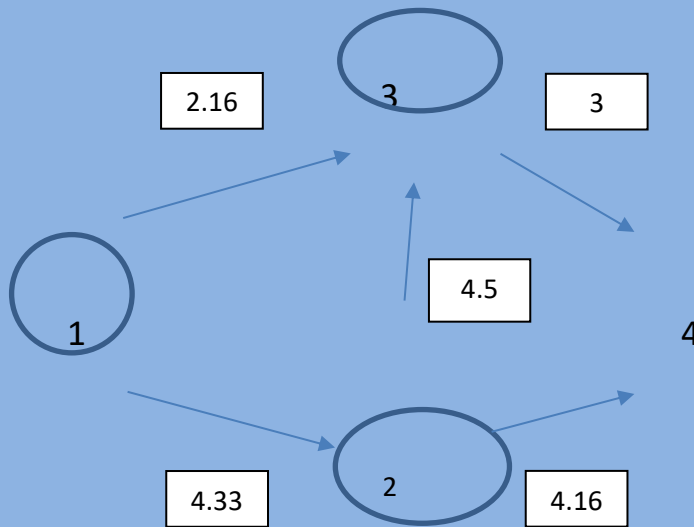| Activities	Time (days)	1	2	3	4	5	6	7	8	9	10	11	12	13
1-2	4	▬	▬	▬	▬									
1-3	3	▬	▬	▬										
2-4	2					▬	▬							
3-4	2				▬	▬								
4-5	3							▬	▬	▬				
5-6	4										▬	▬	▬	▬

 Network:

Critical Path: 1—2—4—5—6

Completion time: 13 days

Q7/   1.

2.

$$Te(1—2) = \frac{To+4Tm+Tp}{6} = 4.33$$

$$Te(2—3) = \frac{To+4Tm+Tp}{6} = 4.50$$

$$Te(1—3) = \frac{To+4Tm+Tp}{6} = 2.16$$

$$Te(2—4) = \frac{To+4Tm+Tp}{6} = 4.16$$

$$Te(3—4) = \frac{To+4Tm+Tp}{6} = 3.00$$

3.

Paths:

1—2—4

1—3—4

1—2—3—4

Critical path: 1—2—3—4 = 11.83 weeks

Expected time for the project:11.83 weeks

4.

$$\text{Var(1—2)} = \left(\frac{Tp-To}{6}\right)^2 = 1$$

$$\text{Var(2—3)} = \left(\frac{Tp-To}{6}\right)^2 = 0.694$$

$$\text{Var(1—3)} = \left(\frac{Tp-To}{6}\right)^2 = 0.111$$

$$\text{Var(2—4)} = \left(\frac{Tp-To}{6}\right)^2 = 0.694$$

$$\text{Var(3—4)} = \left(\frac{Tp-To}{6}\right)^2 = 0.444$$

Critical Var = 1—2—3—4 = 2.138

5.

$$\text{Standard Deviation} = \sqrt{critical\ var} = \sqrt{2.138} = 1.462$$

6.

Probability the project will be completed (Z) in (12) weeks:

$$Z = \frac{12-11.83}{1.462} = 0.116 = 11.6\%$$

Extra notes:

the student's obligation must be clearly informed students of the following:

- Students will be engaged in discussions and analyzing cases and make a presentation.
- Students may be called upon to write reports and do researches.
- Students are required to attend the class throughout the year.

External Evaluator

The Course Catalogue reviewed by

Asst. Lecturer Kamal Mohammed Abdullah

MSc. Business Administration.

Erbil Polytechnic University

Email: kamal.mohammed@epu.edu.iq

0750 460 5412