

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



# Module (Course Syllabus) Catalogue

## 2022-2023

College/ Institute	Erbil Technical Engineering College							
Department	Mechanical and Energy Engineering							
Module Name	Industrial Management							
Module Code	INM706							
Degree	Technical Diploma							
	Master PhD							
Semester	First semester							
Qualification	PhD							
Scientific Title	Assistant Professor							
ECTS (Credits)	4							
Module type	Prerequisite \star Core 🔄 Assist.							
Weekly hours	2							
Weekly hours (Theory)	(2) hours class	(27)Total hours workload						
Weekly hours (Practical)	( ) hr Class	() Total hrsworkload						
Number of Weeks	12							
Lecturer (Theory)	Assist. Prof. Dr.Abdulkhalek							
E-Mail& Mobile NO.	abdulkhalek.kadir@epu.edu.iq							
Lecturer (Practical)	-							
E-Mail & Mobile NO.								
Websites								

# **Course Book**

	This course consists of two main parts study in a one year of two courses at the						
	technical engineering college						
	<b>The first part</b> contains the subjects which are related to management tenis in						
	appared the concerned definitions with understanding of the principles and						
	general, the concerned definitions with understanding of the principles and						
	basic actions of management are to be taken, the industrial management and						
	industrial engineering with explanation of departments of the industrial						
	factories and processes of productions and services are to be taken as well.						
	Also, the subjects of production planning and control types of manufacturing						
Course Description	costs, even-break analyses, and forecasting of selling produced goods by the						
-	factory are to be studied. The time and motion study of raw materials and						
	products in the factory are to be taken, the subjects of how to draw the building						
	and halls of industrial factory with the raw materials drawing plan are to be						
	studied Finally in this part the subjects of maintenance repoyation of						
	machines and tools, and how to manage them are to be studied as well						
	Note: The subjects will be given by details of examples of examples of examples and related						
	necedures then column avamples will be siven for some subjects of the study						
	procedures, then solved examples will be given for some subjects of the study						
	نهم کورسه بان نهم وانه به نهم به بامه گرنگانه « خوارموه ده به خشیت:						
	ا د که ده د. قدناد، حدنندگار ده منهما و د نسبیهکان، دهرندود دن به گشت، و وه بهرنوود دن.						
	<u></u> دېشهسانې ده ځاديه تې						
	پیسهساری به سیبه می میرون به سیبه می از میرون می میرون می میرون می میرون می						
	دوووم: قير بوود* هوا بي خويددار به بنهما و پرهنسيپهدايي دهندارمي پيسهساري و دروست دردن. همرومعا انداز است از مناز به بنه بنه بنه بنه انداز به بنهما و پرهنسيپهدايي دهندارمي پيسهساري و دروست دردن. همرومعا						
course objectives	الفير كردنى قوتابى خويندتار نه سهر پيناسه و پرل دارسننى بهرهمهيينان و خرمهندورارى و نه خسه زيرى						
	دەربارەي بەشەكانى كاركە و شيكردىمۇە و پيشبيىنى كردنى بەرھەم و نيچووەكان. د						
	<u>سٽيدم:</u> فيرکردنى قونابى خويَندکار له سەر چۆنيەتى بەرپيوەبردن <del>،</del> کارگە و کۆمپانيا، لەگەڵ چۆنيەنى سيريەن						
	<u>سیّیهم:</u> فیّرکردنی قونابی خویّندکار له سهر چوّنیه تی به پیّوهبردن¥ کارگه و کوّمپانیا, لهگهڵ چوّنیه نی دامهزراندنی کارگه و کوّمپانیا ههتا دهگاته رادهی به رههمهیّنان و خزمهتگوزاری تهواو, لهگهڵ فیّربوونی قوتابی در است استای دنیاست اشتار استان استاره						
	<u>سیّیهم:</u> فیّرکردنی قونابی خویّندکار له سهر چوّنیه تی به پٽوهبردذ* کارگه و کوّمپانیا, لهگهڵ چوّنیه نی دامهزراندنی کارگه و کوّمپانیا ههتا دهگاته رادهی به رهه مهیّنان و خزمه تگوزاری تهواو, لهگهڵ فیّربوونی قوتابی له سهر بابه تی چاککردنه وهی ماشیّن و نامیّرهکان.						
	<u>سيّيهم:</u> فيّركردنى قونابى خويّندكار له سهر چوّنيه تى به ريّوهبردذ يكارگه و كوّمپانيا, لهگهڵ چوّنيه نى دامهزراندنى كارگه و كوّمپانيا ههتا دهگاته رادهى به رههمهيّنان و خزمه تگوزارى تهواو, لهگهڵ فيّربوونى قوتابى له سهر بابه تى چاككردنه وهى ماشيّن و ئاميّرهكان. During this semester, the student must fulfil the following obligations: First: Attopding loctures in the ball						
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	<ul> <li><u>سيّيهم:</u> فيْركردنى قونابى خويْندكار له سەر چۈنيەتى بەرپْوەبردذ* كارگە و كۆمپانيا, لەگەڵ چۈنيەنى دامەزراندنى كارگە و كۆمپانيا ھەتا دەگاتە رادەى بەرھەمهيّنان و خزمەتگوزارى تەواو, لەگەڵ فيْربوونى قوتابى له سەر بابەتى چاككردنەوەى ماشيّن و ئاميْرەكان.</li> <li>During this semester, the student must fulfil the following obligations: First: Attending lectures in the hall.</li> <li>Second: Share discussions about lecture topics in the class.</li> <li>Third: The student must do the following:         <ul> <li>✓ Respect for the teaching staff, students and other employees.</li> <li>✓ Implementation of health, safety, and environmental protection instructions</li> </ul> </li> </ul>						
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Student's obligation	<ul> <li><u>سيّيهم:</u> فيْركردنى قونابى خويْندكار له سەر چۈنيەتى بەرپْوەبردذ* كارگە و كۆمپانيا, لەگەڵ چۈنيەنى دامەزراندنى كارگە و كۆمپانيا ھەتا دەگاتە رادەى بەرھەھيّنان و خزمەتگوزارى تەواو, لەگەڵ فيْربوونى قوتابى لاه سەر بابەتى چاككردنەوەى ماشيّن و ئاميْرەكان.</li> <li>During this semester, the student must fulfil the following obligations: First: Attending lectures in the hall.</li> <li>Second: Share discussions about lecture topics in the class.</li> <li>Third: The student must do the following:         <ul> <li>✓ Respect for the teaching staff, students and other employees.</li> <li>✓ Implementation of health, safety, and environmental protection instructions</li> <li>✓ Maintaining college property.</li> <li>✓ Respect the instructions issued by the scientific department and the college.</li> </ul> </li> </ul>						
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Student's obligation	<ul> <li><u>سيّيهم:</u> فيركردنى قونابى خويّندكار نه سەر چۆنيەتى بەرپۆوبردذ يكارگە و كۆسپانيا, نەگەن چۈنيەنى دامەزراندنى كارگە و كۆمپانيا هەتا دەگاتە رادەى بەرھەمهيّنان و خزمەتگوزارى تەواو, ئەگەن فيربوونى قوتابى ئە سەر بابەتى چاككردنەودى ماشيّن و ئاميرەكان.</li> <li>During this semester, the student must fulfil the following obligations: First: Attending lectures in the hall.</li> <li>Second: Share discussions about lecture topics in the class.</li> <li>Third: The student must do the following:         <ul> <li>Respect for the teaching staff, students and other employees.</li> <li>Implementation of health, safety, and environmental protection instructions</li> <li>Maintaining college property.</li> <li>Respect the instructions issued by the scientific department and the college.</li> <li>Conducting monthly and final examinations according to the instructions.</li> </ul> </li> <li>Fourth: Accomplishment of the following components during this</li> </ul>						
Student's obligation	<ul> <li><u>سييمم:</u> فيركردنى قونابى خويندكار له سەر چۈنيەتى بەرپيومبردن؛ كارگە و كومپانيا, لەگەل چۈنيەنى</li> <li>دەلەذراندنى كارگە و كومپانيا هەتا دەگاتە رادەى بەرھەمهينان و خزمەتگوزارى تەواو. لەگەل فيربوونى قوتابى</li> <li>th سەر بابە تى چاككردنەودى ماشين و ئاميرەكان.</li> <li>During this semester, the student must fulfil the following obligations:</li> <li>First: Attending lectures in the hall.</li> <li>Second: Share discussions about lecture topics in the class.</li> <li>Third: The student must do the following:         <ul> <li>Respect for the teaching staff, students and other employees.</li> <li>Implementation of health, safety, and environmental protection instructions</li> <li>Maintaining college property.</li> <li>Respect the instructions issued by the scientific department and the college.</li> <li>Conducting monthly and final examinations according to the instructions.</li> </ul> </li> <li>Fourth: Accomplishment of the following components during this semester:</li> </ul>						
Student's obligation	<ul> <li>سييهم: فيركردنى قونابى خويندكار له سەر چۈنيەتى بەرپۈمبردن يكارگە و كۈسانيا, لەگەل چۈنيەنى</li> <li>دامەزراندنى كارگە و كۈمپانيا ھەتا دەگاتە رادەى بەرھەمهينان و خزمەتگوزارى تەواو, لەگەل فيربوونى قوتابى</li> <li>th سەر بابەتى چاككردنەودى ماشين و ئاميرەكان.</li> <li>During this semester, the student must fulfil the following obligations:</li> <li>First: Attending lectures in the hall.</li> <li>Second: Share discussions about lecture topics in the class.</li> <li>Third: The student must do the following:         <ul> <li>Respect for the teaching staff, students and other employees.</li> <li>Implementation of health, safety, and environmental protection instructions</li> <li>Maintaining college property.</li> <li>Respect the instructions issued by the scientific department and the college.</li> <li>Conducting monthly and final examinations according to the instructions.</li> </ul> <li>Fourth: Accomplishment of the following components during this semester:         <ul> <li>Homework / 2</li> </ul> </li> </li></ul>						
Student's obligation	<u>سينيمم:</u> فيركردنى قونابى خويندكار له سەر چونيەتى بەرپنوبىردنە كارگە و كۈسپانيا، لەگەل چۈنيەنى دامەزراندنى كارگە و كۈسپانيا ھەتا دەگاتە رادەى بەرھەمهينان و خزمەتگوزارى تەواو. لەگەل فيربوونى قوتابى دامەزراندنى كارگە و كۈسپانيا ھەتا دەگاتە رادەى بەرھەمهينان و خزمەتگوزارى تەواو. لەگەل فيربوونى قوتابى buring this semester, the student must fulfil the following obligations: First: Attending lectures in the hall. Second: Share discussions about lecture topics in the class. Third: The student must do the following:						
Student's obligation	<u>سییمم:</u> فیرکردنی قونابی خویندکار نه سهر چونیه تی به پیوبردن ی کارگه و کونیپانیا , نهگه ن چونیه نی دامه زراندنی کارگه و کونیپانیا هه تا ده گاته پاده ی به دهه مهینان و خزمه تگوزاری ته واو , نه گه ن فیر بوونی قوتابی tه سهر بابه تی چاککردنه وی ماشین و نامیز مکان. During this semester, the student must fulfil the following obligations: First: Attending lectures in the hall. Second: Share discussions about lecture topics in the class. Third: The student must do the following:						
Student's obligation	<u>سييمم:</u> فيركردنى قونابى خويندكار له سەر چۈنيەتى بەرپومبردن* كارگە و كۈيپانيا, لەگەل چۈنيەنى دامەزراندنى كارگە و كۆمپانيا هەتا دەگاتە رادەى بەرھەمهينان و خزمەتگوزارى تەواو, لەگەل فيربوونى قوتابى له سەر بابه تى چاككردنەوەى ماشين و ئاميرەكان. During this semester, the student must fulfil the following obligations: First: Attending lectures in the hall. Second: Share discussions about lecture topics in the class. Third: The student must do the following:						

Required Learning Materials	Required learning materials are consist of the lectures, discussions, quizzes, examinations, visiting to industrial and services firms, presenting video films about manufacturing and services firms, operations, control, and facilities, then, accomplishment of six components of the study.								
Required Learning Materials Evaluation	TaskWeight (Marks)			Due Week	Relevant Learning Outcome				
	F	Paper Review							
	Assignments	Homework	10%	6&9					
		Class Activity	2%						
		Report	8%	4					
		Seminar	8%	10					
Evaluation		Essay							
		Project							
	Qui	iz	8%	5& 9					
	Lat	).							
	Mic	lterm Exam	24%						
	Fin	al Exam	40%						
	Tot	al	100%						
	2	يِنْكار بوْ ئەومى بتوانيْت كارگە و	، 4 فيْر كردنى قوتابى خو	مه يان ئهم وانهيه بريتيه ا	ئاما نجە سەرەكييەكانى ئەم كۆرس				
Specific learning	بات ,	مريّوه ببات, يان پروّژه بمريّوه ب مريّد	به شێوازێکی زانستیانه ب ` مُدَيَّنْتُنْدَيْنُ	مینان و خزمهتگوزارییهکان ا نمز	کوْمپانیای پیشهسازی و بهرههم ه				
outcome:	نی کهم ت	و بەرھەم دەكات , قىرى ئەھىشت ئەندازەبى ئە كاركردن بەرەبىدا	چون کوئترولی کهلوپهل که لابه نه تهکنیک و ز	هدرودها قیر دەبیت که چون پلان دادەرپریت و قیر دەبیت که چون کونترونی به کەرىيەکار دەبیت. تەانای قامتات، خەنندکار بەرز دەکاتەمە کە لابەنے ز					
	و كورييەدان دەبيى. نودىان قونابى كويىددار بەرر دەدانەوە خە «يەنى نەخىيىي و تەندارەيى تە خارخردن پەرەپيدات. تواناى سەريەرشتى كردنى كارمەند و فەرمانبەرانى دەبيّت.								
Course References:	1. T. F India, 2. R. I 81-76 3. S. 7 7515-	Ramasamy, ( <i>Principles of Management</i> ), Himalaya Publishing House, Mumbai, , 2008 B. Gupta; Anita Kathal, ( <i>Engineering Management</i> ), Tech India Pub. Series, ISBN 384-496-9, 2009 A. Rizvi; D. K. Singh, ( <i>Quality Control</i> ),Galgotia Pub. Pvt. Ltd., New Delhi, ISBN 78- -362-8, 2004							
	4. R. S. Naagarazan; A. A. Arivalagar. ( <i>Total Quality Management</i> ), New Age International, New Delhi, ISBN 978-81-224-2478-2, 2009								
	5. The article	e web pages that are re is in magazines, specia	lated to the subject I studies, case stu	cts within this course dies, and theoretica	e, such as researches, I or practical papers.				
Course topics (Theory)				Week	Learning Outcome				
Industrial management Industrial engineering				l					
Principles of management	2	2							
Punctions of management Departments of an industry factory				3					
Presenting video films about manufacturing and servic			ces firms	1					
Costs of manufacturing				5					

Scientifi	c visit t	o facto	ry + re	oort					6	6					
Break-e	ven an	alysis -	- Exam	ples					7	7					
Producti	on pla	nning a	nd con	trol PP	C				8	3					
Maintenance + Examples										9					
Forecas	ting + l	Exampl	es							10					
Factory layout + Examples										11					
Factory layout + Examples									12						
Practical Topics								Week Learning Outcome							
Question A- C B- E	Question 1 (Industrial management),														
Question A- N B- N	<b>2 (Depa</b> Name 10 Materials	example example departn	s of an in es of ind nent has	ndustry ustrial fa specifie	factory actories. d duties	), connect	(10 + ted with	<b>10 degre</b> material	e <b>es):</b> s movin	g inside	the facto	ry, write	e those	duties.	
Question A- T B- F	<b>3 (Mair</b> There are Preventivy pes.	<b>itenance</b> e five typ ve mainte	e), bes of the enance (	(10 + e mainte PM) is s	<i>10 degr</i> anance, s ubdivide	 ees): tate ther ed into f	n only. ïve type	s accord	ing to th	e nature	of its act	tivity, w	rite the	ese five	
Q4: (Main A- Define B- Write f C- The typ	ntenance mainten ive type pe of (R	e). nance access of mai un of Fai	cording ntenance ilure Ma	to (Britis e. intenanc	sh Stand (5 de re) is div	ard Glos grees) rided int	ssary). o two ty	pes. Wri	( <b>5 degr</b> te them	<i>ees)</i> with the	ir definit	ions.		(6 degre	es)
Q5: (Fore Solve the Calculate follows:	ecasting followir the trend	). ng examp d of sales	<u>ble:(</u> 24 d s by usir	egrees) Ig 3- and	l 4-years	 5 moving	g averag	e, the sal	les data	for corre	esponding	g years a	are give	en as	
Years	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995				
Sales	12	15	14	16	18	17	19	20	22	25	24				
Forecast t	he dema	and for th	ie year 1	996.		•••••									

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#### Solve the following example:

At an industrial factory of air-conditioning devices, it produces 5000 devices per year, for this year, the selling price of one device is 100 dollars, the fixed costs are 10,000 dollars, the variable costs is 50 dollars. Assume that all products are sold and with the same price. Determine after what number of products, the profits will begin, (or determine the Break-even point).

## Question 7: (PPC), ...... (10 degrees):

A- The following is an example shows the serial and parallel routing. Explain it.



## **Extra notes:**

### **External Evaluator:**

After reading this Module (Course syllabus) catalogue 2022-2023, it is suitable and perfect for teaching in mechanical engineering colleges. Best regards



Salim A. Kako Lecturer College of Technology- EPU