



## 45. Course Specification of Engineering Project

### Managements

<b>I. Course Identification and General Information:</b>						
1.	Course Title:	Engineering Project Managements				
2.	Course Code & Number:	FR304				
3.	Credit hours:	C.H				Total
		Th.	Tu.	Pr	Tr.	
		2	-	-	-	2
4.	Study level/ semester at which this course is offered:	Fourth Year/ Second Semester				
5.	Pre –requisite (if any):	Engineering Economy (BR232)				
6.	Co –requisite (if any):	NA				
7.	Program (s) in which the course is offered:	All Electrical Engineering Program				
8.	Language of teaching the course:	Arabic and English.				
9.	Location of teaching the course:	Class				
10.	Prepared By:	Asst. Prof. Dr. Ahmed Al Arashi				
11.	Date of Approval					

<b>II. Course Description:</b>
This course introduces <b>students</b> to the main principals of the project management. <b>They</b> will be exposed to the definitions of the project, project cycle, project planning, monitoring, risk assessments, budgeting, and end project evolution and reporting. It will <b>emphasize</b> on Electrical engineering projects and the need for sentimental confederation to minimize the project foot print on the environment.

<b>III. Course Intended learning outcomes (CILOs) of the course</b>	<b>Referenced PILOs</b>
<b>a1</b> Define the definition of project	A3

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<b>a2</b>	Define the Electrical engineering professional Ethics.	A4
<b>b1</b>	analyze the project critical path	B2
<b>b2</b>	Consider environmental dimensions associated with projects.	B4
<b>c1</b>	Apply the acquired electrical engineering knowledge to evaluate the system technical performance.	C1
<b>c2</b>	Use engineering techniques to enhance the project technical performance.	C4
<b>d1</b>	Work as a team in developing a mini project.	D1
<b>d2</b>	Present a project using MS power point.	D4

<b>(A) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:</b>		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
<b>a1.</b> Define the definition of project	<ul style="list-style-type: none"> <li>▪ Class Lectures.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Quiz</li> <li>▪ Mid-term</li> <li>▪ Final exam</li> </ul>
<b>a2.</b> Define the Electrical engineering professional Ethics.	<ul style="list-style-type: none"> <li>▪ Interactive Class Discussion</li> </ul>	<ul style="list-style-type: none"> <li>▪ Quiz</li> <li>▪ Mid-term</li> <li>▪ Final exam</li> </ul>

<b>(B) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:</b>		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
<b>b1.</b> analyze the project critical path	<ul style="list-style-type: none"> <li>▪ Class Lectures.</li> <li>▪ Interactive Class Discussion</li> </ul>	<ul style="list-style-type: none"> <li>▪ Quiz</li> <li>▪ Mid-term</li> <li>▪ Final exam</li> </ul>
<b>b2.</b> Consider environmental dimensions associated with projects.	<ul style="list-style-type: none"> <li>▪ Class Lectures.</li> <li>▪ Interactive Class Discussion</li> </ul>	<ul style="list-style-type: none"> <li>▪ Quiz</li> <li>▪ Mid-term</li> <li>▪ Final exam</li> </ul>

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© Alignment Course Intended Learning Outcomes of Professional and Practical Skills to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
c1. Apply the acquired electrical engineering knowledge to evaluate the system technical performance.	<ul style="list-style-type: none"> <li>▪ Class Lectures.</li> <li>▪ Interactive Class Discussion</li> </ul>	<ul style="list-style-type: none"> <li>▪ Quiz</li> <li>▪ Mid-term</li> <li>▪ Final exam</li> </ul>
c2. Use engineering techniques to enhance the project technical performance.	<ul style="list-style-type: none"> <li>▪ Class Lectures.</li> <li>▪ Interactive Class Discussion</li> </ul>	<ul style="list-style-type: none"> <li>▪ Quiz</li> <li>▪ Mid-term</li> <li>▪ Final exam</li> </ul>

(D) Alignment Course Intended Learning Outcomes of Transferable Skills to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
d1. Work as a team in developing a mini project.	<ul style="list-style-type: none"> <li>▪ Student projects</li> </ul>	<ul style="list-style-type: none"> <li>▪ Presentation</li> </ul>
d2. Present a project using MS power point.	<ul style="list-style-type: none"> <li>▪ Student projects</li> </ul>	<ul style="list-style-type: none"> <li>▪ Presentation</li> </ul>

IV. Course Content:					
A – Theoretical Aspect:					
Order	Units/Topics List	Learning Outcomes	Sub Topics List	Number of Weeks	Contact hours
1.	Introduction	a1	<ul style="list-style-type: none"> <li>▪ Definition</li> <li>▪ The need for Project Management</li> <li>▪ Response to a Changing Environment</li> <li>▪ Project Goals</li> </ul>	1	2

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2.	Main Project Management Concepts	b1 , a2	<ul style="list-style-type: none"> <li>▪ Functions of Management. Project Viewpoint versus Traditional Management.</li> <li>▪ Evolution of Project Management.</li> <li>▪ Areas of Applications of Project Management</li> <li>▪ Common Approach of Project Management</li> <li>▪ Different Forms of Project Management</li> <li>▪ Project Environments</li> <li>▪ Project Management in various sectors</li> <li>▪ Project and Program</li> </ul>	2	4
3.	Projects Planning	b1 and,b2	<ul style="list-style-type: none"> <li>▪ Planning Steps</li> <li>▪ Project Master Plan</li> <li>▪ Scope and Work Definition</li> <li>▪ Project Organization Structure and Responsibilities.</li> <li>▪ Project Management System. Scheduling.</li> <li>▪ Planning and Scheduling Charts</li> </ul>	2	4
4.	Network Scheduling, PERT, CPM and Resource Allocation.	a2 and b1	<ul style="list-style-type: none"> <li>▪ Logic Diagrams and Networks.</li> <li>▪ Calendar Scheduling and Time-Based Networks</li> <li>▪ Management Schedule Reserve</li> </ul>	1	2
5.	Network Scheduling, PERT, CPM	a2 and b1	<ul style="list-style-type: none"> <li>▪ Program Evaluation and Review Technique (PERT).</li> <li>▪ Critical Path Method (CPM)</li> </ul>	1	2

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	and Resource Allocation.		<ul style="list-style-type: none"> <li>▪ Scheduling with Resource Constraints.</li> </ul>		
6.	Cost Estimating and Budgeting	b2	<ul style="list-style-type: none"> <li>▪ Cost Estimating</li> <li>▪ Cost Escalation</li> <li>▪ Cost Estimating and the Systems Development Cycle</li> <li>▪ Cost Estimating Process.</li> <li>▪ Elements of Budgets and Estimates.</li> <li>▪ Budgeting Using Cost Accounts</li> <li>▪ Cost Schedules and Forecasts</li> </ul>	2	4
7.	Managing Risks in Projects	b1 and c1	<ul style="list-style-type: none"> <li>▪ Risk Concepts.</li> <li>▪ Risk Identification</li> <li>▪ Risk Assessment</li> <li>▪ Risk Response Planning.</li> <li>▪ Project Management Risk Management</li> </ul>	2	4
8.	Project Control	c1 and c2	<ul style="list-style-type: none"> <li>▪ The Control Process</li> <li>▪ Information Monitoring</li> <li>▪ Internal and External Project Control</li> <li>▪ Cost Accounting Systems for Project Control</li> <li>▪ Project Control Process</li> <li>▪ Performance Analysis</li> <li>▪ Forecasting "To Complete" and "At Completion"</li> </ul>	1	2
9.	Project Evaluation, Reporting, and Termination	c1, d1 , d2	<ul style="list-style-type: none"> <li>▪ Project Evaluation</li> <li>▪ Project Review Meetings</li> <li>▪ Reporting</li> <li>▪ Terminating the Project.</li> <li>▪ Termination Responsibilities</li> <li>▪ Closing the Contract</li> <li>▪ Project Extensions</li> </ul>	1	2

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Number of Weeks /and Units Per Semester	14	28
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V. Teaching strategies of the course:	
<ul style="list-style-type: none"> <li>▪ Class Lectures.</li> <li>▪ Project</li> <li>▪ Presentation.</li> <li>▪ Interactive Class Discussion</li> </ul>	

VI. Assignments:				
No	Assignments	Aligned CILOs(symbols)	Week Due	Mark
1.	<ul style="list-style-type: none"> <li>▪ Areas of Applications of Project Management</li> <li>▪ Common Approach of Project</li> </ul>	b1 , a2	3 <sup>rd</sup>	1.5
2.	<ul style="list-style-type: none"> <li>▪ Program Evaluation and Review Technique (PERT).</li> </ul>	a2,b1	7 <sup>th</sup>	1.5
3.	<ul style="list-style-type: none"> <li>▪ Termination Responsibilities</li> <li>▪ Closing the Contract</li> <li>▪ Project Extensions</li> </ul>	c1,d1,d2	12 <sup>th</sup>	2
<b>Total</b>				<b>5</b>

VII. Schedule of Assessment Tasks for Students During the Semester:					
No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1.	Assignments	2 <sup>nd</sup> ,7 <sup>th</sup> ,12 <sup>th</sup>	5	5%	a2, b1,c1,d1,d2
2.	Quiz 1	3 <sup>rd</sup>	5	5%	a1,a2,b1,b2
3.	Quiz 2	5 <sup>th</sup>	5	5%	a1,a2,b1,b2
4.	Midterm exam	7 <sup>th</sup>	10	10%	a1,a2,b1,b2
5.	Project presentation	15 <sup>th</sup>	25	25%	c1,c2,d1,d2
6.	Final Exam	16 <sup>th</sup>	50	50%	a1,a2,b1,b2
<b>Total</b>			<b>100</b>	<b>100%</b>	

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<b>VIII. Learning Resources:</b>	
<ul style="list-style-type: none"> <li>Written in the following order: ( Author - Year of publication – Title – Edition – Place of publication – Publisher).</li> </ul>	
1- Required Textbook(s) ( maximum two ).	
	1- John M. Nicholas, 2004, “Project Management for Business and Engineering, Principals and Practice”, 2 <sup>nd</sup> Edition, Elsevier Inc. Or latest edition. 2- R. Dan Reid and Nada R. Sanders, 2005, “Operations Management An Integrated 4th edition
2- Essential References.	
	1- Oosthuizen and Venter, 2011, “Project Management in Perspective”, Oxford University Press Southern Africa (Pty) Ltd.
3- Electronic Materials and Web Sites etc.	
	None.

<b>IX. Course Policies:</b>	
<b>1.</b>	<b>Class Attendance:</b> A student should attend not less than 75 % of total hours of the subject; otherwise he will not be able to take the exam and will be considered as exam failure. If the student is absent due to illness, he/she should bring <b>an approved</b> statement from university Clinic
<b>2.</b>	<b>Tardy:</b> For late in attending the class, the student will be initially notified. If he repeated lateness in attending class he will be considered as absent.
<b>3.</b>	<b>Exam Attendance/Punctuality:</b> A student should attend the exam on time. He is <b>permitted</b> to attend an exam half one hour from exam beginning, after that he/she will not be permitted to take the exam and he/she will be considered as absent in exam-
<b>4.</b>	<b>Assignments &amp; Projects:</b> The assignment is given to the students after each chapter; the student has to submit all the assignments for checking on time-
<b>5.</b>	<b>Cheating:</b> For cheating in exam, a student will be considered as <b>failure</b> . In case the cheating is repeated three times during his/her study the student will be disengaged from the Faculty-
<b>6.</b>	<b>Plagiarism:</b>

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	Plagiarism is the attending of a student the exam of a course instead of another student. If the examination committee <b>proved</b> a plagiarism of a student, he will be disengaged from the Faculty. The final disengagement of the student from the Faculty should be confirmed from the Student Council Affair of the university.
7.	<p><b>Other policies:</b></p> <ul style="list-style-type: none"> <li>- Mobile phones are not allowed to use during a class lecture. It must be closed, otherwise the student will be asked to leave the lecture room</li> <li>- Mobile phones are not allowed in class during the examination.</li> </ul> <p>Lecture notes and assignments my given directly to students using soft or hard copy</p>

<b>Reviewed By</b>	<p><b><u>Vice Dean for Academic Affairs and Post Graduate Studies: Asst. Prof. Dr. Tarek A. Barakat</u></b></p> <p><b><u>President of Quality Assurance Unit: Assoc. Prof. Dr. Mohammed Algorafi</u></b></p> <p><b><u>Name of Reviewer from the Department: Assoc. Prof. Dr. Radwan Al bouthigy</u></b></p>
	<p><b><u>Deputy Rector for Academic Affairs Asst. Prof. Dr. Ibrahim AlMutaa</u></b></p> <p><b><u>Assoc. Prof. Dr. Ahmed Mujahed</u></b></p> <p><b><u>Asst. Prof. Dr. Munasar Alsubri</u></b></p>

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