9- Course Specification of: Pre-Project Planning and Feasibility Analysis

Course Code (CE596)

XXI. General Information About the Course:						
25.	**Course Title:**	Pre-Project Planning and Feasibility Analysis				
26.	**Course Code and Number:**	CE596				
27.	**Credit Hours:**	**Credit Hours**			**Total**	
		Lecture	Practical	Seminar/Tutorial		
		4	-	-	4	
28.	**Study Level and Semester:**	First Semester				
29.	**Pre-requisites (if any):**	-				
30.	**Co-requisites (if any):**	-				
31.	**Program (s) in which the course is offered:**	MSc. in Engineering Project Management				
32.	**Language of teaching the course:**	English and/or Arabic				
33.	**Study System:**	Courses & Thesis				
34.	**Prepared By:**	Prof. Dr. Eng. Omar H. Al-Sakaf				
35.	**Reviewed by:**	Dr. Tarek Barakat				
36.	**Date of Approval:**					

XXII. Course Description:

This course focuses on the pre-project phase of a project's life cycle and on the challenges faced by the pre-project planning team in helping the project owner with the go-ahead decision for the project. Topics tackled include: assimilation of client needs; market assessment studies; impacts of laws and regulations on the facility program; surveys of project area infrastructure conditions; investigation of site conditions; project scope validation; project execution planning, project costs and schedule estimation; project life-cycle analysis; financial planning; and financial feasibility framework design and analysis.

XXIII. Course Intended Learning Outcomes (CILOs):

Upon successful completion of the **Pre-Project Planning and Feasibility Analysis** Course, the graduates will be able to:

a1 - Understand the overall process of pre-project planning.

a2 - Understand concepts, principles, and steps of feasibility studies.

b1 - Analyze the concepts and steps of conducting pre-planning and feasibility studies.

b2 - Develop a solid understanding of how the project site and technology play a crucial role in the decision-making process.

c1 - Apply the technical expertise injected into the pre-project planning process in project development.

c2 - Assess the project risks that need to be considered and accounted for during the pre-project planning phase.

d1 - Attain appropriate effective written and oral communication skills relevant to feasibility

studies.

d2 - Function effectively as an individual or leader in diverse teams and in multi-disciplinary settings so as to provide practical solutions to project pre-planning challenges.

XIV. Alignment of Course Intended Learning Outcomes (CILOs) to Program Intended Learning Outcomes (PILOs)

CILOs		PILOs	
q. Knowledge and Understanding: Upon successful completion of **the Pre-Project Planning and Feasibility Analysis Course**, the graduates will be able to:		**Q. Knowledge and Understanding:** Upon successful completion of the **MSc. Program in Engineering Project Management**, the graduates will be able to:	
a1.	Understand the overall process of pre-project planning.	**A1.**	Describe the various project management knowledge areas.
		A2.	Demonstrate knowledge and understanding of planning, analysis, supervision and monitoring and control of works related to the engineering disciplines.
a2.	Understand concepts, principles, and steps of feasibility studies.	**A3.**	Demonstrate knowledge and understanding of methodology, research planning, and analysis techniques.
		A4.	Demonstrate knowledge and understanding of skills and techniques of engineering and management to execute contemporary projects and operations effectively and efficiently
r. Cognitive/ Intellectual Skills: Upon successful completion of the **Pre-Project Planning and Feasibility Analysis Course,** the graduates will be able to:		**R. Cognitive/ Intellectual Skills:** Upon successful completion of the **MSc. Program in Engineering Project Management,** the graduates will be able to:	
b1.	Analyze the concepts and steps of conducting pre-planning and feasibility studies.	**B1.**	Identify, analyze, formulate, and solve engineering problems that involve constrained resources considering factors such as socio-economic, environmental, health and safety.
b2.	Develop a solid understanding of how the project site and technology play a crucial role in the decision-making process.	**B2.**	Critically evaluate decision making techniques to aid management judgement;
		B3.	Engage in analytical and critical thinking with respect to the planning of engineering design and development projects;

		B4.	Formulate hypothesis, design and perform experiments/research scientifically to solve and explain observed phenomena.
s. Professional and Practical Skills: Upon successful completion of the **Pre-Project Planning and Feasibility Analysis Course,** the graduates will be able to:		**S. Professional and Practical Skills:** Upon successful completion of the **MSc. Program in Engineering Project Management,** the graduates will be able to:	
c1.	Apply the technical expertise injected into the pre-project planning process in project development.	**C1.**	Apply expertly several different techniques used in the management and control of projects.
c2.	Assess the project risks that need to be considered and accounted for during the pre-project planning phase.	**C2.**	Collect, interpret, and use data effectively to make decisions and assess their associated impacts including socio-economic, environmental, health and safety.
		C3.	Initiate, plan, execute, and close out a project utilizing project management concepts.
t. Transferable Skills: Upon successful completion of the **Pre-Project Planning and Feasibility Analysis Course,** the graduates will be able to:		**T. Transferable Skills:** Upon successful completion of the **MSc. Program in Engineering Project Management,** the graduates will be able to:	
d1.	Attain appropriate effective written and oral communication skills relevant to feasibility studies.	**D1.**	Prepare a complete thesis and reports, present the ideas clearly and defend them.
d2.	Function effectively as an individual or leader in diverse teams and in multi-disciplinary settings so as to provide practical solutions to project pre-planning challenges.	**D2.**	Balance professional and ethical responsibilities including contemporary issues and environmental awareness.
		D3.	Conduct independently and communicate research that advances and extends knowledge and scholarship in related fields.

XXV. Alignment of CILOs to Teaching and Assessment Strategies

q. Alignment of Knowledge and Understanding CILOs:

Knowledge and Understanding CILOs		Teaching Strategies	Assessment Strategies
a1.	Understand the overall process of pre-project planning.	▪ Lectures ▪ Demonstrations ▪ Interactive class discussions	▪ Group work ▪ Assignments ▪ Presentations ▪ Written Exams
a2.	Understand concepts, principles, and steps of feasibility studies.		

r. Alignment of Intellectual Skills CILOs:

Intellectual Skills CILOs	Teaching Strategies	Assessment Strategies

b1.	Analyze the concepts and steps of conducting pre-planning and feasibility studies.	▪ Lectures ▪ Demonstrations ▪ Interactive class discussion	▪ Assignments ▪ Presentations ▪ Exams
b2.	Develop a solid understanding of how the project site and technology play a crucial role in the decision-making process.		

s. Alignment of Professional and Practical Skills CILOs:

Professional and Practical Skills CILOs		Teaching Strategies	Assessment Strategies
c1.	Apply the technical expertise injected into the pre-project planning process in project development.	▪ Lectures ▪ Demonstrations ▪ Interactive class discussion	▪ Assignments ▪ Presentations ▪ Exams
c2.	Assess the project risks that need to be considered and accounted for during the pre-project planning phase.		

t. Alignment of Transferable (General) Skills CILOs:

Transferable (General) Skills CILOs		Teaching Strategies	Assessment Strategies
d1.	Attain appropriate effective written and oral communication skills relevant to feasibility studies.	▪ Demonstrations ▪ Interactive class discussion	▪ Assignments ▪ Presentations.
d2.	Function effectively as an individual or leader in diverse teams and in multi-disciplinary settings so as to provide practical solutions to project pre-planning challenges.		

XVI. Course Content

13. Theoretical Aspect

Order	Topic List / Units	Sub -Topics List	Number of Weeks	Contact Hours	Course ILOs
1	**Introduction**	• What is pre-project planning? • What defines a project? • Pre-project planning models	1	4	a.1, a.2, b.1, b.2
2	**Initial Project Identification: Description and Screening**	• Initial Screen • Project Screening: Social and Environmental Safeguards Integration	2	8	a.1, a.2, b.1, b.2, c.1, c.2
3	**Project Pre-Feasibility Study Process**	• Pre-feasibility analysis objectives • Steps and results • Verification of results	3	12	a.1, a.2, b.1, b.2, c.1, c.2, d1, d.2

4	Midterm Exam		1	4	a.1, a.2, b.1, b.2, c.1, c.2
5	**Project Feasibility Study Process**	• Needs analysis • Options analysis • Technical feasibility • Financial assessment • Value assessment • Economic assessment • Demonstration of project viability • Verification of information and sign-off • Revisiting feasibility study	4	16	a.1, a.2, b.1, b.2, c.1, c.2, d1, d2
6	**Case Studies - Pre-project planning and feasibility studies for selected engineering projects**	• From different sectors	4	16	a.1, a.2, b.1, b.2, c.1, c.2, d.1, d.2
7	Final Exam		1	4	a.1, a.2, b.1, b.2, c.1, c.2, d.1, d.2
Number of Weeks /and Contact Hours Per Semester			**16**	**64**	

14. Practical Aspect **NA**

Order	Practical / Tutorials topics	Number of Weeks	Contact Hours	Course ILOs
1				
2				
Number of Weeks /and Contact Hours Per Semester				

15. Tutorial Aspect: **NA**

No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1				
2				
Number of Weeks /and Units Per Semester		**15**	**30**	

XVII. Teaching Strategies:

- Formal lectures
- Interactive discussions
- Group work
- Presentations

XVIII. Assessment Methods of the Course:

- Group work
- Assignments
- Presentations
- Written Exams

XIX. Tasks and Assignments:

No	Assignments/ Tasks	Individual/ Group	Mark	Week Due	CILOs (symbols)
1	• Group work; groups will develop feasibility analysis of selected fictive projects from diverse sectors in parallel with weekly gained knowledge through lectures, group discussions and readings assignments. Based on each reading/topic, a written assignment will be issued. Students will be asked to write synthetic essays and/or complete analyses pertaining to the reading materials. These will be short (>4, <5 pages double spaced) pieces. • Students are expected to prepare for class by reading the assigned reading prior to the class for which they are listed, and to participate in class sessions/group discussions. • By the end of the semester (Week 14), Student Groups will submit their Feasibility Analysis Report and deliver a PowerPoint presentation within a plenary session.	Group	30	3-14	a.1, a.2, b.1, b.2, c.1, c.2, d.1, d.2
	Total Score		**30**	**-**	**-**

XXX. Learning Assessment:

No.	Assessment Tasks	Week due	Mark	Proportion of Final Assessment	CILOs

1	Assignments	3-14	30	30%	a.1, a.2, b.1, b.2, c.1, c.2, d.1, d.2
2	Mid-Term Exam	7	20	20%	a.1, a.2, b.1, b.2, c.1, c.2, d.1
3	Final Exam	16	50	50%	
Total			**100**	**100%**	**-**

VIII Learning Resources and Facilities

1- Required Textbook(s)

- Mesly, Olivier, 'Project Feasibility: Tools for Uncovering Points of Vulnerability', Taylor & Francis Group, 2017.
- Scott R. Herriott, 'Feasibility Analysis for Sustainable Technologies - An Engineering-Economic Perspective', Business Expert Press, 2015.

2- Essential References

- Project Management Institute PMI, 'Business Analysis for Practitioners: A Practice Guide', Project Management Institute, 2015.
- European Integration Office, 'Guide to the Logical Framework Approach', Global Print, 2nd Edition, 2011.

3- Electronic Materials and Websites *etc.*

- Course Power Point.
- Video clips.
- Links to information resources.

Educational and research Facilities and Equipment Required

Technology Resources
(AV, data show, Smart Board, software, etc.)

Data Show, Internet Access

Other Resources
(Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)

vii. الضوابط والسياسات المتبعة في المقرر Course Policies

بعد الرجوع للوائح الجامعة يتم كتابة السياسة العامة للمقرر فيما يتعلق بالآتي:

1	**سياسة حضور الفعاليات التعليمية Class Attendance:** **- يلتزم الطالب بحضور 75% من المحاضرات ويحرم في حال عدم الوفاء بذلك.** **- يقدم أستاذ المقرر تقريرا بحضور وغياب الطلاب للقسم ويحرم الطالب من دخول الامتحان في حال تجاوز الغياب 25% ويتم اقرار الحرمان من مجلس القسم.**
2	**الحضور المتأخر Tardy:** **- يسمح للطالب حضور المحاضرة إذا تأخر لمدة ربع ساعة لثلاث مرات في الفصل الدراسي، وإذا تأخر زيادة عن ثلاث مرات يحذر شفويا من أستاذ المقرر، وعند عدم الالتزام يمنع من دخول المحاضرة.**
3	**ضوابط الامتحان Exam Attendance/Punctuality:**

	- لا يسمح للطالب دخول الامتحان النهائي إذا تأخر مقدار (20) دقيقة من بدء الامتحان - إذا تغيب الطالب عن الامتحان النهائي تطبق اللوائح الخاصة بنظام الامتحان في الكلية.
4	التعيينات والمشاريع Assignments & Projects: - يحدد أستاذ المقرر نوع التعيينات في بداية الفصل ويحدد مواعيد تسليمها وضوابط تنفيذ التكليفات وتسليمها. - إذا تأخر الطالب في تسليم التكليفات عن الموعد المحدد يحرم من درجة التكليف الذي تأخر في تسليمه.
5	الغش Cheating: - في حال ثبوت قيام الطالب بالغش في الامتحان النصفي أو النهائي تطبق عليه لائحة شؤون الطلاب. - في حال ثبوت قيام الطالب بالغش او النقل في التكليفات والمشاريع يحرم من الدرجة المخصصة للتكليف.
6	الانتحال Plagiarism: – في حالة وجود شخص ينتحل شخصية طالب لأداء الامتحان نيابة عنه تطبق اللائحة الخاصة بذلك
7	سياسات أخرى Other policies: - أي سياسات أخرى مثل استخدام الموبايل أو مواعيد تسليم التكليفات ..... الخ

Academic Year: ……....

Course Plan (Syllabus): Pre-Project Planning and Feasibility Analysis

II. Information about Faculty Member Responsible for the Course:

Name	**Prof. Dr. Eng. Omar H. Al-Sakaf**	**Office Hours**					
Location &Telephone No.	Faculty of Engineering Mobile: 733772328/773332328	**SAT**	**SUN**	**MON**	**TUE**	**WED**	**THU**
E-mail	oalsakaf@gmail.com oalsakaf@yahoo.com		08:00 - 12:00				

IV. General Information about the Course:

37	**Course Title**	**Pre-Project Planning and Feasibility Analysis**			
38	**Course Code and Number**	**CE596**			
39	**Credit Hours**	**Credit Hours**			**Total**
		Lecture	**Practical**	**Seminar/Tutorial**	
		4	**-**	**-**	**4**
40	**Study Level and Semester**	**First Semester**			
41	**Pre-requisites**	-			
42	**Co –requisite**	**-**			
43	**Program (s) in which the course is offered**	MSc. in Engineering Project Management			
44	**Language of teaching the course**	English			
45	**Location of teaching the course**	**Faculty of Engineering**			

V. Course Description:

This course focuses on the pre-project phase of a project's life cycle and on the challenges faced by the pre-project planning team in helping the project owner with the go-ahead decision for the project. Topics tackled include: assimilation of client needs; market assessment studies; impacts of laws and regulations on the facility program; surveys of project area infrastructure conditions; investigation of site conditions; project scope validation; project execution planning, project costs and schedule estimation; project life-cycle analysis; financial planning; and financial feasibility framework design and analysis.

VI. Course Intended Learning Outcomes (CILOs):

Upon successful completion of the **Pre-Project Planning and Feasibility Analysis** Course, the graduates will be able to:

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XIII. Course Content

A – Theoretical Aspects

Order	Topics List	Week Due	Contact Hours
1	Introduction	Week 1	4
2	Initial Project Identification: Description and Screening	Week 2 - 3	8
3	Project Pre-Feasibility Study Process	Week 4 - 6	12
4	Midterm Exam	Week 7	4
5	Project Feasibility Study Process	Week 8 – 11	16
6	Case Studies - Pre-project planning and feasibility studies for selected engineering projects	Week 12 – 15	16
7	Final Exam	Week 16	4
Number of Weeks and Units Per Semester		**16**	**48**

9. Practical Aspect NA

Order	Practical / Tutorials topics	Number of Weeks	Contact Hours	Course ILOs
1				
2				
Number of Weeks /and Contact Hours Per Semester				

10. Training/ Tutorials/ Exercises Aspects: NA

Order	Tutorials/ Exercises	Week Due	Contact Hours
1	▪		
2	▪		

Number of Weeks /and Contact Hours Per Semester	

VII. Teaching Strategies:

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- Presentations

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IX. Tasks and Assignments:

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	Total Score		**30**	**-**

XI. Learning Assessment:

No.	Assessment Tasks	Week due	Mark	Proportion of Final Assessment
1	Assignments	3-14	30	30%
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7	**سياسات أخرى Other policies:** - أي سياسات أخرى مثل استخدام الموبايل أو مواعيد تسليم التكليفات ..... الخ