



الجودة والتميز
"Quality and Excellence"

جامعة الزيتونة الأردنية
Al-Zaytoonah University of Jordan
كلية الهندسة والتكنولوجيا
Faculty of Engineering and Technology



"عراقة وجودة"
"Tradition and Quality"

Course Plan for Bachelor program - Course Plan Development and Updating Procedures/ Civil and Infrastructure Engineering Department	QF09/0407-3.0E
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Course Plan for Civil and Infrastructure Engineering (Bachelor Program) No.: (20171)

Approved by Deans Council by decision (07/72/2016/2017) dated (30/08/2017)

(160) Credit Hours

No.	Goals and learning outcomes
PEO 1	Implement technical, collaborative, and communication skills with leadership principles, to pursue careers in Civil and Infrastructure Engineering.
SO	
1	An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2	An ability to apply the engineering design process to produce solutions that meet specified needs with consideration for public health and safety, and global, cultural, social, environmental, economic, and other factors as appropriate to the discipline.
5	An ability to function effectively as a member or leader of a team that establishes goals, plans tasks, meets deadlines, and creates a collaborative and inclusive environment.
6	An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
8	An ability to understand and explain the key concepts used in management, business, public policy, public administration, leadership principles and licensure.
PEO 2	Seek higher degrees in Civil and Infrastructure Engineering and embark on continuing education
SO	
1	An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2	An ability to apply the engineering design process to produce solutions that meet specified needs with consideration for public health and safety, and global, cultural, social, environmental, economic, and other factors as appropriate to the discipline.
3	An ability to communicate effectively with a range of audiences.
6	An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.
PEO 3	Seek professional licensure, apply their skills ethically, and being aware of the impact of Civil and Infrastructure Engineering projects on society as well as environment.
SO	
3	An ability to communicate effectively with a range of audiences.
4	An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
7	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.
8	An ability to understand and explain the key concepts used in management, business, public policy, public administration, leadership principles and licensure.

Note: PEO: Program Educational Objective, SO: Student Outcome

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Student's information		Course Number	Course Name	Credit Hours	Theory Hours	Practical Hours	Prerequisite Co-requisite	Advertisement Plan
Registered	Passed							Semester/Year
First Category: University Requirements (27 CHs)								
Group: University Mandatory Courses (15 CHs)								
<input type="checkbox"/>	<input type="checkbox"/>	0420101	Military Sciences	3	3	0		1/2
<input type="checkbox"/>	<input type="checkbox"/>	0420111	Arabic Language (1)	3	3	0	Remedial Arabic Language	1/1
<input type="checkbox"/>	<input type="checkbox"/>	0420121	English Language (1)	3	3	0	Remedial English Language	1/2
<input type="checkbox"/>	<input type="checkbox"/>	0420151	National Education	3	3	0		1/1
<input type="checkbox"/>	<input type="checkbox"/>	0420171	Life Skills	3	3	0		1/1
Category: University Elective Requirements (12 CHs)								
Group: Humanities (6 CHs)								
<input type="checkbox"/>	<input type="checkbox"/>	0420103	History of Jerusalem	3	3	0		1/2
<input type="checkbox"/>	<input type="checkbox"/>	0420112	Islamic Culture	3	3	0		2/2
<input type="checkbox"/>	<input type="checkbox"/>	0420131	Principles of Education	3	3	0		1/2
<input type="checkbox"/>	<input type="checkbox"/>	0420134	Sport and Health	3	2	2		2/2
<input type="checkbox"/>	<input type="checkbox"/>	0420142	Human Civilization	3	3	0		1/2
<input type="checkbox"/>	<input type="checkbox"/>	0420152	Introduction to Sociology	3	3	0		2/2
<input type="checkbox"/>	<input type="checkbox"/>	0501100	Innovation and Entrepreneur Management.	3	3	0		2/2
<input type="checkbox"/>	<input type="checkbox"/>	0601102	Law in Our Life	3	3	0		1/2
Group: Health and Environmental Sciences (6 CHs)								
<input type="checkbox"/>	<input type="checkbox"/>	0120111	Information Technology and Society	3	3	0	Remedial Computer Skills	1/2
<input type="checkbox"/>	<input type="checkbox"/>	0120153	Medical Plants	3	3	0		1/2
<input type="checkbox"/>	<input type="checkbox"/>	0301101	First Aid	3	3	0		1/2
<input type="checkbox"/>	<input type="checkbox"/>	0301102	Fundamental of Nutrition	3	3	0		2/2
<input type="checkbox"/>	<input type="checkbox"/>	0906100	Principles of Energy Sciences	3	3	0		2/2

Second Category: Faculty Requirements (26 CHs)								
Group: Faculty Mandatory Courses (26 CHs)								
Student's information		Course number	Course Name	Credit Hours	Theory Hours	Practical Hours	Prerequisite Co-requisite	Advertisement Plan
Registered	passed							Semester/year
<input type="checkbox"/>	<input type="checkbox"/>	0120121	Calculus I	3	3	0		1/1
<input type="checkbox"/>	<input type="checkbox"/>	0120131	General Physics I	3	3	0		1/1
<input type="checkbox"/>	<input type="checkbox"/>	0120132	General Physics Laboratory I	1	0	3	Co. General Physics I	1/1
<input type="checkbox"/>	<input type="checkbox"/>	0905111	Principles of Electric Circuits	3	3	0	General Physics I	1/2
<input type="checkbox"/>	<input type="checkbox"/>	0911101	Engineering Workshops	2	1	3	-	1/1
<input type="checkbox"/>	<input type="checkbox"/>	0911102	Engineering Drawing	3	0	6	-	2/1
<input type="checkbox"/>	<input type="checkbox"/>	0909101	Computer Engineering	3	3	0	Remedial computer	2/1

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		Applications					Skills (0120001)	
<input type="checkbox"/>	<input type="checkbox"/>	0908201	Technical Writing and Professional Ethics	2	2	0	English Language I	2/2
<input type="checkbox"/>	<input type="checkbox"/>	0909404	Engineering Economics	3	3	0	3 rd Year Level	1/4
<input type="checkbox"/>	<input type="checkbox"/>	0908461	Project Management and Value Engineering	3	3	0	Engineering Economics	2/5
Third Category: Major Requirements (85 CHs)								
Group: Mandatory Courses (82 CHs)								
<input type="checkbox"/>	<input type="checkbox"/>	0908202	Engineering Mechanics	3	3	0	General Physics I+ Engineering Drawing	1/2
<input type="checkbox"/>	<input type="checkbox"/>	0908203	Strength of Materials	3	3	0	Engineering Mechanics	2/2
<input type="checkbox"/>	<input type="checkbox"/>	0908204	Strength of Materials Laboratory	1	0	3	Co. Strength of Materials	2/2
<input type="checkbox"/>	<input type="checkbox"/>	0908205	Probability and Statistics for Engineers	3	3	0	-	2/2
<input type="checkbox"/>	<input type="checkbox"/>	0908221	Geology	3	3	0	2 nd Year Level	1/2
<input type="checkbox"/>	<input type="checkbox"/>	0908222	Construction Materials	3	3	0	2 nd Year Level	1/3
<input type="checkbox"/>	<input type="checkbox"/>	0908223	Construction Materials Laboratory	1	0	3	Co. Construction Materials	1/3
<input type="checkbox"/>	<input type="checkbox"/>	0908225	Principles of Electrical Communications	3	3	0	Principles of Electrical Circuits	2/2
<input type="checkbox"/>	<input type="checkbox"/>	0908334	Communication Networks and Electrical Wiring	3	3	0	Principles of Electric Circuits	1/3
<input type="checkbox"/>	<input type="checkbox"/>	0908336	Communication Networks and Electrical Wiring Laboratory	1	0	3	Co. Communication Networks and Electrical Wiring	1/3
<input type="checkbox"/>	<input type="checkbox"/>	0908331	Structural Analysis I	3	3	0	Strength of Materials	1/3
<input type="checkbox"/>	<input type="checkbox"/>	0908332	Structural Analysis II	3	3	0	Structural Analysis I	2/3
<input type="checkbox"/>	<input type="checkbox"/>	0908341	Surveying	3	3	0	Calculus I	1/2
<input type="checkbox"/>	<input type="checkbox"/>	0908342	Surveying Laboratory	1	0	3	Co. Surveying	1/2
<input type="checkbox"/>	<input type="checkbox"/>	0908352	Environmental Science	3	3	0	General Chemistry for Engineering Students	1/4
<input type="checkbox"/>	<input type="checkbox"/>	0908353	Hydraulics	3	3	0	Engineering Mechanics	2/3
<input type="checkbox"/>	<input type="checkbox"/>	0908355	CAD in Civil Engineering	3	3	0	Computer Engineering Applications + Department Approval	1/5
<input type="checkbox"/>	<input type="checkbox"/>	0908356	Water and Environment Laboratory	1	0	3	Co. Wastewater Engineering	2/4
<input type="checkbox"/>	<input type="checkbox"/>	0908361	Geotechnical Engineering	3	3	0	Geology + Strength of Materials	2/3
<input type="checkbox"/>	<input type="checkbox"/>	0908362	Geotechnical Engineering Laboratory	1	0	3	Co. Geotechnical Engineering	2/3
<input type="checkbox"/>	<input type="checkbox"/>	0908401	Engineering Practical Training	3	0	9	Passing 90 Credits for 8 weeks	
<input type="checkbox"/>	<input type="checkbox"/>	0908433	Reinforced Concrete I	3	3	0	Structural Analysis I	1/4
<input type="checkbox"/>	<input type="checkbox"/>	0908434	Reinforced Concrete II	3	3	0	Reinforced Concrete I	2/4
<input type="checkbox"/>	<input type="checkbox"/>	0908435	Steel Structures Design	3	3	0	Structural Analysis II	1/5
<input type="checkbox"/>	<input type="checkbox"/>	0908441	Traffic and Transportation Engineering	3	3	0	Surveying	1/4
<input type="checkbox"/>	<input type="checkbox"/>	0908451	Engineering Hydrology	3	3	0	Hydraulics	1/4

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<input type="checkbox"/>	<input type="checkbox"/>	0908452	Wastewater Engineering	3	3	0	Environmental Science	2/4
<input type="checkbox"/>	<input type="checkbox"/>	0908462	Foundation Engineering	3	3	0	Geotechnical Engineering	2/4
<input type="checkbox"/>	<input type="checkbox"/>	0908501	Graduation Project I	1	0	3	Passing 120 Credits	1/5
<input type="checkbox"/>	<input type="checkbox"/>	0908502	Graduation Project II	2	0	6	Graduation Project I	2/5
<input type="checkbox"/>	<input type="checkbox"/>	0908547	Highway and Pavement Design	3	3	0	Traffic and Transportation Engineering	2/4
<input type="checkbox"/>	<input type="checkbox"/>	0908548	Highway and Pavement Laboratory	1	0	3	Co. Highway and Pavement Design	2/4
<input type="checkbox"/>	<input type="checkbox"/>	0908571	Specifications and Quantity Surveying	3	3	0	Reinforced Concrete I	1/5
Group: Elective Courses (3 CHs)								
<input type="checkbox"/>	<input type="checkbox"/>	0908504	Special Topics I	3	3	0	Passing 120 Credits	5 th year level
<input type="checkbox"/>	<input type="checkbox"/>	0908505	Special Topics II	3	3	0	Passing 120 Credits	5 th year level
<input type="checkbox"/>	<input type="checkbox"/>	0908532	Reinforced Concrete III	3	3	0	Reinforced Concrete II	5 th year level
<input type="checkbox"/>	<input type="checkbox"/>	0908545	Highway Maintenance	3	3	0	Highway and Pavement Design	5 th year level
<input type="checkbox"/>	<input type="checkbox"/>	0908552	Water and Wastewater Network Design	3	3	0	Wastewater Engineering	5 th year level
<input type="checkbox"/>	<input type="checkbox"/>	0908561	Advanced Soil Mechanics	3	3	0	Geotechnical Engineering	5 th year level
Category: Supported Requirements (22 CHs)								
Group: Supported Mandatory Courses (22 CHs)								
<input type="checkbox"/>	<input type="checkbox"/>	0101104	Calculus II for Engineering Students	3	3	0	Calculus I	2/1
<input type="checkbox"/>	<input type="checkbox"/>	0101273	Ordinary Differential Equations I	3	3	0	Calculus II for Engineering Students	2/2
<input type="checkbox"/>	<input type="checkbox"/>	0201143	General Chemistry for Engineering Students	3	3	0	-	2/1
<input type="checkbox"/>	<input type="checkbox"/>	0201144	General Chemistry Laboratory for Engineering Students	1	0	3	Co. General Chemistry for Engineering Students	2/1
<input type="checkbox"/>	<input type="checkbox"/>	0908225	Principles of Electrical Power Systems	3	3	0	Principles of Electrical Circuits	2/3
<input type="checkbox"/>	<input type="checkbox"/>	0911221	Thermodynamics I	3	3	0	General Physics I	2/3
<input type="checkbox"/>	<input type="checkbox"/>	0911331	Heating and Air Conditioning	3	3	0	Thermodynamics I	1/4
<input type="checkbox"/>	<input type="checkbox"/>	0911361	Numerical Engineering Methods	3	3	0	Calculus II for Engineering Students	1/3

Category: Remedial Requirements (9 CHs)			
Group: Remedial Mandatory Courses (9CHs)			
Course number	Course Name	Credit Hours	Type of Requirement
0120001	Remedial Computer Skills	3	
0420001	Remedial Arabic Language	3	
0420002	Remedial English Language	3	



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Courses Given to Other Majors (8 CHs)

Course Number	Course Name	Credit Hours	Category of Requirement
0908234	Structural Systems	3	Supported Requirements