



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.: (2019/ 2020)	
Approved by Deans Council by decision (03/20 / 2019-2018) dated (06 / 05/ 2019)	
(160) Credit Hours	
No.	Goals and learning outcomes
PEO 1	Pursue careers in Civil and Infrastructure Engineering, implementing technical solutions while demonstrating collaborative and communication skills with leadership.
SO	
1	An ability to identify, formulates, and solves complex engineering problems by applying principles of engineering, science, and mathematics.
2	An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
5	An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
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 project development and management, public policy, public administration, leadership principles and licensure.
PEO 2	Seek higher degrees in Civil and Infrastructure Engineering and embark on lifelong learning.
SO	
1	An ability to identify, formulates, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2	An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
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 project development and management, 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	Advising Plan
Registered	Passed							Semester/ Year
First Category: University Requirements (21 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 I	3	3	0	Remedial Arabic Language	1/1
<input type="checkbox"/>	<input type="checkbox"/>	0420121	English Language I	3	3	0	Remedial English Language	2/1
<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		2/5
Category: University Elective Requirements (6 CHs)								
Group: Humanities (3 CHs)								
<input type="checkbox"/>	<input type="checkbox"/>	0420103	History of Jerusalem	3	3	0		2/1
<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		2/1
<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		2/1
<input type="checkbox"/>	<input type="checkbox"/>	0420152	Introduction to Sociology	3	3	0		2/2
<input type="checkbox"/>	<input type="checkbox"/>	0520100	Innovation and Entrepreneur Management	3	3	0		2/2
<input type="checkbox"/>	<input type="checkbox"/>	0620102	Law in our Life	3	3	0		2/1
Group: Health and Environmental Sciences (3 CHs)								
<input type="checkbox"/>	<input type="checkbox"/>	0120111	Information Technology and Society	3	3	0	Remedial Computer Skills	2/1
<input type="checkbox"/>	<input type="checkbox"/>	0120153	Medical Plants	3	3	0		2/1
<input type="checkbox"/>	<input type="checkbox"/>	0320101	First Aid	3	3	0		2/1
<input type="checkbox"/>	<input type="checkbox"/>	0320102	Fundamental of Nutrition	3	3	0		2/2
Second Category: Faculty Requirements (26 CHs)								
Student's Information		Course Number	Course Name	Credit Hours	Theory Hours	Practical Hours	Prerequisite/ Co-requisite	Advising 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"/>	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 Applications	3	3	0	Remedial Computer Skills (0120001)	2/1
<input type="checkbox"/>	<input type="checkbox"/>	0905111	Principles of Electrical Circuits	3	3	0	General Physics I	1/2
<input type="checkbox"/>	<input type="checkbox"/>	0908201	Technical Writing and Professional Ethics	2	2	0	English Language I	2/2

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□	□	0909404	Engineering Economics	3	3	0	4 th Year Level	1/4
□	□	0908461	Project Management and Value Engineering	3	3	0	Engineering Economics	2/4
Third Category: Major Requirements (113 CHs)								
Group: Mandatory Courses (82 CHs)								
□	□	0908202	Engineering Mechanics	3	3	0	General Physics I + Engineering Drawing	1/2
□	□	0908221	Geology	3	3	0	2 nd Year Level	1/2
□	□	0908341	Surveying	3	3	0	Calculus I	1/2
□	□	0908342	Surveying Laboratory	1	0	3	Co. Surveying	1/2
□	□	0908203	Strength of Materials	3	3	0	Engineering Mechanics	2/2
□	□	0908204	Strength of Materials Laboratory	1	0	3	Co. Strength of Materials	2/2
□	□	0908205	Probability and Statistics for Engineers	3	3	0	-	2/2
□	□	0908225	Principles of Electrical Communications	3	3	0	Principles of Electrical Circuits	2/2
□	□	0908222	Construction Materials	3	3	0	3 rd Year Level	1/3
□	□	0908223	Construction Materials Laboratory	1	0	3	Co. Construction Materials	1/3
□	□	0908334	Communication Networks and Electrical Wiring	3	3	0	Principles of Electrical Circuits	1/3
□	□	0908336	Communication Networks and Electrical Wiring Laboratory	1	0	3	Co. Communication Networks and Electrical Wiring	1/3
□	□	0908331	Structural Analysis I	3	3	0	Strength of Materials	1/3
□	□	0908332	Structural Analysis II	3	3	0	Structural Analysis I	2/3
□	□	0908353	Hydraulics	3	3	0	Engineering Mechanics	2/3
□	□	0908361	Geotechnical Engineering	3	3	0	Geology + Strength of Materials	2/3
□	□	0908362	Geotechnical Engineering Laboratory	1	0	3	Co. Geotechnical Engineering	2/3
□	□	0908433	Reinforced Concrete I	3	3	0	Structural Analysis I	1/4
□	□	0908352	Environmental Science	3	3	0	General Chemistry for Engineering Students	1/4
□	□	0908441	Traffic and Transportation Engineering	3	3	0	Surveying	1/4
□	□	0908451	Engineering Hydrology	3	3	0	Hydraulics	¼
□	□	0908356	Water and Environment Laboratory	1	0	3	Co. Wastewater Engineering	2/4
□	□	0908355	CAD in Civil Engineering	3	3	0	Computer Engineering Applications + Department Approval	2/4
□	□	0908401	Engineering Practical Training	3	0	9	Passing 115 Credits for 8 weeks (280 Hrs.)	
□	□	0908434	Reinforced Concrete II	3	3	0	Reinforced Concrete I	2/4
□	□	0908435	Steel Structures Design	3	3	0	Structural Analysis II	2/4
□	□	0908452	Wastewater Engineering	3	3	0	Environmental Science	2/4
□	□	0908462	Foundation Engineering	3	3	0	Geotechnical Engineering	2/4

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<input type="checkbox"/>	<input type="checkbox"/>	0908501	Graduation Project I	1	0	3	Passing Engineering Practical Training	1/5
<input type="checkbox"/>	<input type="checkbox"/>	0908547	Highway and Pavement Design	3	3	0	Traffic and Transportation Engineering	1/5
<input type="checkbox"/>	<input type="checkbox"/>	0908548	Highway and Pavement Design Laboratory	1	0	3	Co. Highway and Pavement Design	1/5
<input type="checkbox"/>	<input type="checkbox"/>	0908571	Specifications and Quantity Surveying	3	3	0	Reinforced Concrete I	1/5
<input type="checkbox"/>	<input type="checkbox"/>	0908502	Graduation Project II	2	0	6	Graduation Project 1	2/5
Group: Elective Courses (9 CHs)								
<input type="checkbox"/>	<input type="checkbox"/>	0908503	Special Topics	3	3	0	Department Approval	5 th year level
<input type="checkbox"/>	<input type="checkbox"/>	0908533	Pre-Stressed Concrete	3	3	0	Co. Reinforced Concrete II	5 th year level
<input type="checkbox"/>	<input type="checkbox"/>	0908531	Bridges Engineering	3	3	0	Reinforced Concrete II + Steel Structures Design	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 Networks Design	3	3	0	Wastewater Engineering	5 th year level
<input type="checkbox"/>	<input type="checkbox"/>	0908563	Advanced Geotechnical Engineering	3	3	0	Geotechnical Engineering	5 th year level
<input type="checkbox"/>	<input type="checkbox"/>	0908538	Railway Engineering	3	3	0	Highway and Pavement Design	5 th year level
<input type="checkbox"/>	<input type="checkbox"/>	0908539	Introduction to Earthquake Engineering	3	3	0	Reinforced Concrete II	5 th year level
<input type="checkbox"/>	<input type="checkbox"/>	0908549	Photogrammetric Surveying and Remote Sensing	3	3	0	Surveying	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"/>	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"/>	0101273	Ordinary Differential Equations I	3	3	0	Calculus II for Engineering Students	2/2
<input type="checkbox"/>	<input type="checkbox"/>	0911363	Numerical Analysis	3	3	0	Calculus II for Engineering Students	1/3
<input type="checkbox"/>	<input type="checkbox"/>	0911221	Thermodynamics I	3	3	0	General Physics I	2/3
<input type="checkbox"/>	<input type="checkbox"/>	0905325	Principles of Electrical Power Systems	3	3	0	Principles of Electrical Circuits	2/3
<input type="checkbox"/>	<input type="checkbox"/>	0911331	Heating and Air Conditioning	3	3	0	Thermodynamics I	1/4



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Category: Remedial Requirements (9 CHs)

Group: Remedial Mandatory Courses (9 CHs)

Course number	Course Name	Credit Hours	Type of Requirement
0120001	Remedial Computer Skills	3	
0420001	Remedial Arabic Language	3	
0420002	Remedial English Language	3	