Shatt Al-Arab University College

Department of Civil Engineering

Bachelor of Science (B.Sc.) - Civil Engineering

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1. Mission & Vision Statement

Vision Statement

We plan to continuously upgrade and develop the level of scientific curricula, academic training and engineering services to suit the department's legacy and honorable history.

Mission Statement

Creating a suitable climate for developing the capabilities and talents of students to prepare qualified engineers with comprehensive knowledge of the basics of civil engineering. Develop scientific research to provide effective solutions that improve the standard of life and push the wheel of economic development by directing scientific research and academic curricula towards economic development and linking scientific research to the problems and needs of human society in general and in Iraq in particular. Instilling professional ethics in the graduates and immunizing them against deviation and away from professionalism. Providing distinguished engineering consultancy through the consulting office and the continuous development of the expertise available to ensure urban and

urban progress in Basrah Governorate in particular and Iraq in general.

Cooperation with scientific institutions in the fields of research, exchange of experiences, and encouragement of joint scientific research with Iraqi universities and reputable international universities. Adopting international quality standards to measure the performance of teachers and researchers in the department to improve their scientific and cognitive competence. Supporting the initiatives of faculty and researchers in the department to establish projects that serve the university and the community. Expanding extra-curricular activities and developing the latent skills of students outside the academic field.

2. Program Specification

Programme code:	BSc-CIV	**ECTS**	240
Duration:	4 levels, 8 Semesters	**Method of Attendance:**	Full Time

The goal of the Civil Engineering undergraduate degree program is to prepare graduates who can perform at the entry level in civil engineering practice having responsibility for the planning, design, implementation, operation, and maintenance of civil engineering infrastructure. It is expected that some years after graduation, they can become licensed professionals. Graduates will be provided with skills and tools for life-long learning, continuing professional development, and pursuing advanced degrees

3. Program Objectives

The educational objectives of the Civil Engineering undergraduate degree program are that within a few years, graduates will:

1. Serve in leadership positions and multidisciplinary teams that create a climate of innovation to address evolving engineering challenges.
2. Continue life-long learning for professional growth leading to certifications, professional licenses, and advanced academic degrees.
3. Develop engineering solutions to improve quality of life and enhance economic development of communities.

4. Student Learning Outcomes

4.1 ***ABET compulsory SLO***

1- An ability to distinguish, identify, define, formulate, and solve engineering problems by applying principles of engineering, science and mathematics.
2- An ability to produce engineering designs that meet desired needs within certain constraints by applying both analysis and synthesis in the design process.
3- An ability to create and carry out proper measurement and tests with quality assurance, analyses and interpret results, and utilize engineering judgment to make inferences.
4- An ability to skillfully communicate orally with a gathering of people and in writing with various managerial levels.
5- An ability to perceive ethical and professional responsibilities in engineering cases and make brilliant judgments taking into account the consequences in worldwide financial, ecological and societal considerations.
6- An ability to perceive the continual necessity for professional knowledge growth and how to find, assess, assemble and apply it properly.

7- An ability to work adequately on teams and to set up objectives, plan activities, meet due dates, and manage risk and uncertainty.

4.2 Civil department SLO

1- Determine and analyze models of applied loads on structures. us methods of analysis of beams, trusses, and frames to determine the response of both determinate and indeterminate structures.
2- Understand the role of structural analysis within the context of engineering design and decision making. Design of steel beams and columns. Design of Plate girders and other steel elements.
3- Identify and define the Traffic Operations at the highways. Identify the basic concepts of public Transportation. Familiar with Bituminous materials, Natural Asphalt, constituents of asphalt cement, and test of asphalt.
4- Design different types of hydraulic structures. Understand the causes of failure of the hydraulic structures and its solutions. Compute the quantity of potable water for a specific city. Analyze and design water networks, pump station, treatment plant. Sewage and storm network analysis and design.
5- Outline the physical processes in the context of hydrology, including the hydrological cycle in general. Apply a range of common techniques, such as flood frequency analysis, probabilistic rational, to estimate design peak flows. Clarify the basic concepts of irrigation and drainage engineering systems and their applications in agricultural fields
6- Ability to determine project duration and critical path and other task elements such as free float. Ability to determine project cost and cash flows. Ability to estimate material quantity as per drawings specifications. Ability to estimate equipment size and cost.
7- Ability to draw all civil engineering elements using manually or using Autocad software. Ability to read and understand all kind of civil engineering drawings.
8- Ability to apply building drawings on the ground and also observed actual ground conditions. Ability to use different type of survey equipment for different types of task.

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5. Academic Staff

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6. Credits, Grading and GPA

Credits

Shatt Al-Arab University College is following the Bologna Process with the European Credit Transfer System (ECTS) credit system. The total degree program number of ECTS is 240, 30 ECTS per semester. 1 ECTS is equivalent to 25 hrs student workload, including structured and unstructured workload.

Grading

Before the evaluation, the results are divided into two subgroups: pass and fail. Therefore, the results are independent of the students who failed a course. The grading system is defined as follows:

GRADING SCHEME مخطط الدرجات				
Group	**Grade**	التقدير	**Marks (%)**	**Definition**
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب - قيد المعالجة	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				
Number Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

Calculation of the Cumulative Grade Point Average (CGPA)

1. The CGPA is calculated by the summation of each module score multiplied by its ECTS, all are divided by the program total ECTS.

   CGPA of a 4-year B.Sc. degree:

   CGPA = [(1st ^{m}odule score x ECTS) + (2nd ^{m}odule score x ECTS) + ……] / 240

7. Curriculum/Modules

Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
E112	Mathematics	114	86	8.00	B	
E118	Engineering Drawings	142	108	10.00	C	
CE114	Engineering Geology	86	64	6.00	B	
E119	Physics	44	31	3.00	B	
E115	Chemistry	44	31	3.00	B	
				30		

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
CE113	Engineering Mechanics	142	108	10	C	
E116	Engineering workshop	58	42	4	S	
U111	English	58	42	4	S	
CE124	Building Material	114	86	8	C	
E125	Computer software	58	42	4	B	
				30		

Semester 3 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
E212	Applied mathematics	114	86	8	S	
CE214	Fluid Mechanics	128	97	9	C	
CE216	Concrete technology	100	75	7	C	
CE217	Computer programming	58	42	4	S	
U211	Engineering Ethics	30	20	2	S	
				30		

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
CE213	Strength of Material	114	86	8	C	
CE215	Engineering Survey	114	86	8	C	
CE227	Engineering Statistics	58	42	4	S	
CE228	Building construction method and drawings	100	75	7	C	
E126	Human rights and democracy	44	31	3	S	
				30		

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
CE311	Numerical engineering analysis	114	86	8.00	C	
CE312	Structure theory	114	86	8.00	C	
CE315	Drainage and irrigation engineering	114	86	8.00	C	
CE318	Computer applications	86	64	6.00	S	
				30		

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
CE313	Soil Mechanics	114	86	8	C	
CE314	Reinforced concrete design	142	108	10	C	
CE316	Project management and engineering economics	58	42	4	C	
CE317	Traffic engineering	114	86	8	C	
				30		

Semester 7 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
CE411	Design of concrete structure	114	86	8	C	
CE412	Foundation engineering	142	108	10	C	
CE417	Method of construction and estimation	72	53	5	C	
CE418	Hydrology	58	42	4	C	
CE419	Harbour Engineering	44	31	3	C	
				30		

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
CE413	Steel structure design	86	64	6	C	
CE414	Hydraulic engineering	58	42	4	C	
CE415	Highway Engineering and Pavement Design	114	86	8	C	
CE416	Sanitary engineering	114	86	8	C	
CE420	Engineering project	58	42	4	C	
				30		

8. Contact

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