Undergraduate Degree Program Catalogue | 2023-2024 |
دليل البرنامج الدراسي

Al-Furat Al-Awsat Technical University

Bachelor of Science Honours (B.Sc. Honours) –
Building & Construction engineering
Technologies بكالوريوس علوم – هندسةتقنيات البناء والإنشاءات

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1. Mission & Vision Statement

Vision Statement

The building & construction engineering technologies academic staff of the Natural and Behavioral Sciences Division at Al-Furat Al-Awsat Technical University believe that students come to understand the discipline of building & construction through a combination of course work, laboratory experiences, research, and fieldwork. The combination of instructional methods leads students to a balanced understanding of the scientific methods used by civil engineers to be site engineers.

Mission Statement

The building & construction engineering technologies academic staff pursues a multifaceted charge at Al-Furat Al-Awsat Technical University. The Program seeks to

provide all civil students with fundamental knowledge of construction, as well as a deeper understanding of a selected focus area within the civil sciences. The curriculum and advising have been designed to prepare graduates for their professional future, whether they choose to work as field or site engineers, or to pursue advanced degrees in the life sciences. The civil program also provides the necessary fundamental knowledge of the design & analysis of structures to support their study, the Environmental Studies degree, and the Associate of Science degree in. In addition, building & construction courses provide a key laboratory science experience for those students seeking to complete the general education requirements.

2. Program Specification

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

The building & construction is a wonderfully wide-ranging subject. The emphasis of the programme is the whole construction to which everything is related. The degree is popular - for some it's the breadth of the subject that appeals, for others it's a path to specialisation. All students have the opportunity to transfer onto our specialist degrees in whole branches of civil engineering at the end of the first year.

Level 1 exposes students to the fundamentals of building & construction, suitable for progression to all programmes within the civil programme group. Programme-specific core topics are covered at Level 2 preparing for research-led subject specialist modules at Levels 3 and 4. building & construction graduate is therefore trained to appreciate how research informs teaching, according to the University and School Mission statements.

At Levels 2, 3 and 4 students are free to choose more than half of their module credits with the proviso a range of modules are selected that reflect the complexity of life forms. This

allows students to develop their own wide-ranging interests in civil engineering. Decisions on what to study are made with input from personal tutors.

The research ethos is developed and fostered from the start via practicals, which are either embedded in lecture modules or taught in dedicated practical modules, research seminars and tutorials. There is a compulsory field course in Level 1, which students must pass in order to progress into Level 2, and optional field courses in Levels 2, 3 and 4. At Level 4 all students carry out an independent research project, which may be a xx credit library or data analysis project, or a xx credit field or laboratory based project.

Academic tutorials are held at Levels 1 and 2 with the same tutor, who is also the personal tutor, providing continuity and progressive guidance. Level 1 and 2 tutorials include a number of workshops to teach skills, e.g. library use and presentation skills, followed by assessed exercises, e.g. essays and talks, as opportunities to practice these skills in a subject-specific context.

International years and Industrial placements are also offered and individual needs are discussed with the appropriate tutor and accommodated wherever possible.

3. Program Goals

1. To provide a comprehensive education in building & construction that stresses scientific reasoning and problem solving across the spectrum of disciplines within building & construction
2. To prepare students for a wide variety of post-baccalaureate paths, including graduate school, professional training programs, or entry level jobs in any area of building & construction
3. To provide extensive hands-on training in electronic technology, statistical analysis, laboratory skills, and field techniques

4. To provide thorough training in written and oral communication of scientific information
5. To enrich students with opportunities for alternative education in the area of building & construction through undergraduate research, internships, and study-abroad

4. Student Learning Outcomes

building & construction is the study of the safety method in constructing different buildings and roach bridges construction materials…etc. The Department offers a Bachelor of Science in building & construction with a concentration in General civil; Surveying / Design of pavements. Additionally, the Department offers courses to a large number of students from other departments and supports pre-professional programs. The building & construction curriculum and experiences are designed to prepare students, in part, for entry into professional structural programs, graduate studies, technical careers and education

Outcome 1

Identification of Complex Relationships

Graduates will be able to illustrate the structure and function of material components and explain how they interact in building members.

Outcome 2

Oral and Written Communication

Graduates will be able to formally communicate the results of soil and material investigations using both field tests and written communication skills.

Outcome 3

Laboratory and Field Studies

Graduates will be able to perform laboratory experiments and field studies, by using scientific equipment and computer technology while observing appropriate safety protocols.

Outcome 4

Scientific Knowledge

Graduates will be able to demonstrate a balanced concept of how scientific knowledge develops, including the historical development of foundational theories and laws and the nature of science.

Outcome 5

Data Analyses

Graduates will be able to demonstrate scientific quantitative skills, such as the ability to conduct simple data analyses.

Outcome 6

Critical Thinking

Graduates will be able to use critical-thinking and problem solving skills to develop a research project and/or paper.

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1	Hakim Saeed Muhammed	Ph.D.	Professor	Dr.hakim.alkurayshi@atu.edu.iq	+9647801425273	
2	Muhammed Kerim Abed	Ph.D.	Professor	mohammed_k1965@atu.edu.iq	+9647801685690	
3	Ali Abed Alhusain Abed	MSc.	Professor	alialdhalemi@atu.edu.iq	+9647801184490	
4	Hashim Ali Husain	Ph.D.	Ass.Professor	hashim@atu.edu.iq	+9647828114409	
5	Dhergham Aed Aljelil	Ph.D.	Ass.Professor	dherghamalhhamdani@atu.edu.iq	+9647803694163	
6	Ali Hadi Adim	Ph.D.	Ass.Professor	inkr.ali@atu.edu.iq	+9647700405646	
7	Kamal Ali Muhammed	Ph.D.	Lecturer	Kamal.alfadhly@atu.edu.iq	+9647801020119	
8	Mahdi Jasim Husain	Ph.D.	Lecturer	Mahdi. Jasimcnj @atu.edu.iq	+9647831801138	

5. Academic Staff

Academic staff of the department

9	Hanaa Mehmood Amir	MSc.	Lecturer	Han. @atu.edu.iq	+9647725111257	
10	Alaa Muhsin Dawood	MSc.	Ass.lecturer	Alaa.dawood@atu.edu.iq	+9647823607213	
11	Adnan Kadum Jewad	MSc.	Ass.lecturer	Adnan.jewad@atu.edu.iq	+9647806503094	
12	Mohammed Qasim Shaaban	MSc.	Ass.lecturer	Mohammed.shaaban@atu.edu.iq	+9647803058943	
13	Hawraa Khaled Henoon	MSc.	Ass.lecturer	Hawraa. khaled@atu.edu.iq	+9647817577506	
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15	Daniah Abdulameer M	MSc.	Ass.lecturer	daniah.alaassam@atu.edu.iq	+9647702782872	
16	Dyaa Kareem Ali	MSc.	Ass.lecturer	deyaa.ali@atu.edu.iq	+9647847475939	
17	Noor Hashim Abdulmunaf	MSc.	Ass.lecturer	noor.abd@atu.edu.iq	+9647811638489	

6. Credits, Grading and GPA

Credits

ATU 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 student workload, including structured and unstructured workload.

Grading

Before the evaluation, the results are divided into two subgroups: pass and fail. Therefore,

	Name	Certificate			Mobile Number	
1	Hakim Saeed Muhammed	Ph.D.	Professor in structures		+9647801425273	
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3	Ali Abed Alhusain Abed	MSc.	Professor in traffic & transportation		+9647801184490	
4	Hashim Ali Husain	Ph.D.	Ass.Professor in surveying		+9647828114409	
5	Dhergham Aed Aljelil	Ph.D.	Ass.Professor in geotechnical		+9647803694163	
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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	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				
NB 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 Grade Point Average (GPA)

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

   GPA of a 4-year B.Sc. degrees:

   GPA = [(1st module score x ECTS) + (2nd module score x ECTS) + ……] / 240

7. Curriculum/Modules

Semester 1 | 30 ECTS

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ATU16011	Engineering mechanics	93	157	10.00	C	NO
ATU16012	Engineering drawing	78	22	4.00	C	NO
ATU16013	Mathematics	93	107	8.00	B	NO
ATU16014	Engineering physics	48	2	2.00	B	NO
ATU16015	Human rights & democracy	18	32	2.00	S	NO
ATU16016	Advanced English skills	63	37	4.00	S	NO
TOTAL		393	357	30.00		

Semester 2 | 30 ECTS

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ATU16021	Construction material	123	127	10.00	C	NO
ATU16022	Plane Surveying	123	127	10.00	C	NO
ATU16023	Engineering Geology	33	42	3.00	B	NO
ATU16024	Descriptive Geometry	63	37	4.00	S	NO
ATU16025	Computer Principles	48	27	3.00	B	NO

Total		390	360	30.00		

Semester 3 | 30 ECTS

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ATU16031	Concrete Technology	123	77	8.00	C	NO
ATU16032	Strength of Materials	93	132	9.00	C	NO
ATU16033	Applied Surveying	78	47	5.00	C	NO
ATU16034	Probability & Statistics	48	27	3.00	S	NO
ATU16035	Advanced mathematics	48	77	5.00	S	NO
Total		390	360	30.00		

Semester 4 | 30 ECTS

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ATU16041	Building Construction	63	137	8.00	C	NO
ATU16042	Engineering Surveying	108	17	5.00	C	NO
ATU16043	Technology of Construction materials industry	78	47	5.00	C	NO

ATU16044	Fluid mechanics	78	97	7.00	S	NO
ATU16045	Concrete Technology practices	63	62	5.00	C	NO
Total		390	360	30.00		

Semester 5 | 30 ECTS

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ATU16051	Reinforced Concrete	78	72	6.00	C	NO
ATU16052	Structural analysis theory	93	107	8.00	C	NO
ATU16053	Soil mechanics	78	72	6.00	C	NO
ATU16054	Construction Management	48	52	4.00	S	NO
ATU16055	Pavement Engineering	93	57	6.00	C	NO
Total		390	360	30.00		

Semester 6 | 30 ECTS

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ATU16061	Advanced Concrete Technology	123	127	10.00	C	NO
ATU16062	Masonry building	48	77	5.00	C	NO
ATU16063	Construction Equipment	48	27	3.00	C	NO

ATU16064	Engineering & Numerical analysis	78	72	6.00	S	NO
ATU16065	Transportation Engineering	93	57	6.00	C	NO
Total		390	360	30.00		

Semester 7 | 30 ECTS

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ATU16071	Design of Reinforced Concrete buildings	93	107	8.00	C	NO
ATU16072	Foundation Engineering	63	87	6.00	C	NO
ATU16073	Construction drawing	48	2	2.00	C	NO
ATU16074	Sustainable Construction materials	63	12	3.00	S	NO
ATU16075	Design of steel structures	93	107	8.00	C	NO
ATU16076	Innovative project	33	42	3.00	C	NO
Total		393	357	30.0		

Semester 8 | 30 ECTS

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ATU16081	Materials for heritage buildings	63	37	4.00	S	NO

ATU16082	Quantity surveying & Estimation	63	137	8.00	C	NO
ATU16083	Safety in Construction	48	2	2.00	C	NO
ATU16084	Computer Aided design of structure	78	22	4.00	S	NO
ATU16085	Repairs & Rehabilitation of structures	63	37	4.00	C	NO
ATU16086	Environmental Engineering	78	122	8.00	S	NO
Total		393	357	30.0		

Total for all Semesters		3129	2871	240.0		

8. Contact

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ملاحظة: هذا النموذج تم وضعه وتقديمه من قبل مديرية ضمان الجودة في وزارة التعليم العالي والبحث العلمي