Al al-Bayt University

Faculty / School of Engineering

Bachelor Degree Study Plan Template
of Surveying Engineering

2019 - 2020

03/11/2022

Department
Faculty
Al al-Bayt University

Bachelor Degree Study Plan of Surveying Engineering

Program Title (Arabic): البكالوريوس في الهندسة المساحة

Program Title (English): B.Sc. In Surveying Engineering.

A. Components of the Plan:

The bachelor's degree study plan of Surveying Engineering consists of (163) credit hours distributed as follows:

No.	Requirement Type	Credits
First	University Requirements	27
Second	Faculty Requirements	27
Third	Specialty Requirements: a- Compulsory Requirements b- Elective Requirements	 a- 100 b- 9
Fourth	Optional Requirements	-
Total		163

B. Numbering System

1- Code of the Faculty

Code	Faculty
07	Faculty of engineering

2- Codes of Specialty

Code	Specialty
03	Architectural engineering
04	Civil engineering
05	Surveying engineering
06	Renewable energy engineering

3- Codes of Courses

0-9	0-9	1-5	05	07
Serial	**Field**	**Level**	**Department**	**Faculty**

The Significance of the Ten Rank (Field) in the Course Numbers

Field Code	Specialty Field Title	Field Code	Specialty Field Title
0	General	5	Photogrammetry
1	Fundamentals	6	Geodetic Surveying
2	Computer Applications	7	Geographic Information Systems
3	Construction Surveying	8	Remote Sensing
4	Cadastral Surveying	9	Graduation Project

First: University Requirements

A. **Compulsory Courses:** (18) credit hours include the following courses:

No.	Course No.	Course Title	Credits	Pre-requisite	Learning Type
1	5001100	Islamic Culture	3		online
2	5001101	Islamic systems	3		online
3	5001110	Military science	3		online
4	5001111	National education	3		online
5	5001120	Arabic (1)	3	Pass in placement tests	online
6	5001121	English (1)	3	Pass in placement tests	online
Total			18		

* The Military Sciences course is elective for non-Jordanian students, and instead they can study an elective course from one of the courses offered by the University.
** Type of learning: indicates that the course will be educated by one of the following: (face-to-face, blended, online)

B. **Elective Courses:** (9) credit hours chosen by the student from outside his faculty, provided that one course is from each of the following fields:

1. **The field of humanities:**

No.	Course No.	Course Title	Credits	Pre-requisite	Learning Type
1	5001122	German language	3	-	blended
2	5001123	Persian language	3	-	blended
3	5001124	Turkish language	3	-	blended
4	5001125	Jerusalem history	3	-	blended
5	5001126	Islamic culture history	3	-	blended
6	5001180	Introduction to education	3	-	blended

2. The field of social and economic sciences which includes the following courses:

No.	Course No.	Course Title	Credits	Pre-requisite	Learning Type
1	5001112	Law in our life	3	-	blended
2	5001113	Democracy and human rights	3	-	blended
3	5001140	Scientific Research Methodology	3	-	blended
4	5001141	professional Ethics	3	-	blended
5	5001142	Leadership and Innovation	3	-	blended
6	5001181	Introduction to Educational Psychology	3	-	blended
7	5001182	Organizing the family and Society	3	-	blended
8	5001183	Undergraduate life skills	3	-	blended

3. The field of science, technology and health which includes the following courses:

No.	Course No.	Course Title	Credits	Pre-requisite	Learning Type
1	5002104	Scientific Miracles in the Holy Quran	3	-	blended
2	5002130	Physics in our life	3	-	blended
3	5002131	Human biology	3	-	blended
4	5002132	Environment and pollution	3	-	blended
5	5002133	Introduction to astronomy	3	-	blended
6	5002150	Traffic safety	3	-	blended
7	5002160	informatics culture	3	-	blended
8	5002182	media and information education	3	-	blended

Note: As for the placement tests, all registered students as of the first semester 2010/2011 shall take the tests in Arabic, English and computer, provided that the student who fails to pass any of these tests shall register a remedial course (099) out of his study plan. These courses are:

Remedial Courses:

No.	Course No.	Course Title	Credits	Pre-requisite	Learning Type
1	9901099	Arabic language	3	-	online
2	9902099	English language	3	-	online
3	0901099	Computer skills	3	-	online

Second: Faculty Requirements to which (27) credits are allocated and they include the following courses

No.	Course No.	Course Title	Credits	Pre-requisite	Learning Type
1	0401101	Calculus 1	3	-	blended
2	0401102	Calculus 2	3	0401101	blended
3	0402101	Physics 1	3	-	blended
4	0402103	Practical Physic Lab 1	1	0402101 or CO.	face-to-face
5	0703128	Engineering drawing and its applications in the computer	3	-	face-to-face
6	0703485	Project planning and scheduling	3	4th year level	blended
7	0704103	Climate Change and Environment	2	-	online
8	0704201	Communications Skills and Technical Writing	2	-	face-to-face
9	0704422	Engineering Economy	3	4th year level	blended
10	0704599	Practical Engineering Training	3	Pass 115 credited hours	face-to-face
11	0706102	Engineering Shops	1		face-to-face
Total			**27**		

Third: Specialty Requirements to which (109) credits are allocated and they include:

A. **Compulsory Courses**: to which (100) credits are allocated and they include the following courses

No.	Course No.	Course Title	Weekly hours		Credits	Pre-requisite	Learning Type
			Theoretical	Practical			
1	0401201	Calculus 3	3	0	3	0401102	face-to-face
2	0401203	Ordinary Differential Equations	3	0	3	0401102	face-to-face
3	0401241	Linear Algebra	3	0	3	-	Face -to -face
4	0402102	Physics 2	3	0	3	042101	face-to-face
5	0402104	Practical Physic Lab 2	0	3	1	0402102 Or CO.	face-to-face
6	0403101	Chemistry 1	3	0	3	-	blended
7	0403103	Practical Chemistry Lab 1	0	3	1	0403101 Or CO.	face-to-face
8	0704202	Engineering Probability and Statistic	3	0	3	0401102	face-to-face
9	0704301	Numerical Methods for Engineers	2	0	2	0401203	face-to-face

10	0705201	Surveying Fundamentals	3	0	3	0401101	face-to-face
11	0705203	Surveying Lab	0	3	1	0705201 or CO	face-to-face
12	0705221	Computer applications in surveying	2	3	3	0901131&0705201	face-to-face
13	0705231	Geology and Geomorphology for Surveying	3	0	3	-	blended
14	0705279	Object-Oriented Programming for Surveying Students	3	0	3	0901131	face-to-face
15	0705332	Construction Surveying	3	0	3	0705203	face-to-face
16	0705333	Route Surveying	3	0	3	0705334	blended
17	0705334	Construction Surveying Lab	0	3	1	0705332 or CO.	face-to-face
18	0705335	Route Surveying Lab	0	3	1	0705333 or CO.	face-to-face
19	0705343	Computation Adjustment	3	0	3	0705201&0401241 &0704202	face-to-face
20	0705344	Cadastral Surveying and Land Management	3	0	3	0705334	online
21	0705353	photogrammetry	3	0	3	0705203&0401241	blended
22	0705361	Geodesy Principles	3	0	3	0705201&0705343	face-to-face
23	0705362	Mapping and Geodetic Positioning	3	0	3	0705361	blended
24	0705452	Digital Mapping	2	3	3	0705474	face-to-face
25	0705454	Digital and Analytical Photogrammetry	3	0	3	0705343&0705353	face-to-face
26	0705455	Digital and Analytical Photogrammetry Lab	0	3	1	0705454 or CO	face-to-face
27	0705461	Satellite Systems for Global Navigation	3	0	3	0705361	face-to-face
28	0705463	Satellite Systems for Global Navigation Lab	0	3	1	0705461 or CO	face-to-face
29	0705473	Principles of Geographic Information System (GIS)	3	0	3	0705201 & 0705362	face-to-face
30	0705474	Principles of Geographic Information System (GIS) LAB	0	3	1	0705473 or CO	face-to-face
31	0705475	Spatial Information Programming	2	3	3	0705279 & 0705474	face-to-face
32	0705483	Principles of Remote Sensing	3	0	3	0705343	blended
33	0705484	Principles of Remote Sensing LAB	0	3	1	0705483 or CO	face-to-face

34	0705566	Geomatics Networks	3	0	3	0705463 & 0705343	face-to-face
35	0705577	Geographic Information System Data Analysis	3	0	3	0705474	face-to-face
36	0705578	Geographic Information System Data Analysis Lab	0	3	1	0705577 or CO	face-to-face
37	0705585	Satellite Image Processing And Analysis	3	0	3	0705484	blended
38	0705586	Satellite Image Processing And Analysis Lab	0	3	1	0705585 or CO	face-to-face
39	0705591	Graduation Project (1)	1	1	1	Pass 118 credited hours	face-to-face
40	0705592	Graduation Project (2)	1	3	2	0705591 & 0705599	face-to-face
41	0706212	Mechanics (Statics & Dynamics)	3	0	3	0402102	face-to-face
42	0901131	Computer Science-2 for Scientific Disciplines	3	0	3	-	blended
Total			82	49	100		

B. **Elective Courses**: to which (9) credits are allocated chosen from the following courses:

No.	Course No.	Course Title	Weekly hours		Credits	Pre-requisite	Learning Type
			Theoretical	**Practical**			
1	0705462	Satellite Geodesy	3	0	3	0705463	face-to-face
2	0705505	Special Topics In Surveying Engineering	3	0	3	4th year level	blended
3	0705521	Computer Applications In Surveying (2)	2	3	3	0705221 & 0705474	face-to-face
4	0705556	Closed Range Photogrammetry	3	0	3	0705455	blended
5	0705557	Aerial Photo Interpretation	3	0	3	0705455	blended
6	0705563	Digital Elevation Models	3	0	3	0705474 &0705484	blended
7	0705581	Applied Remote Sensing	3	0	3	0705484	blended
Total			20	3	21		

Fourth: Optional Courses: to which (….) credits are allocated chosen from the courses offered by the university's faculties and institutes.

No.	Course No.	Course Title	Credits	Learning Type
1	-	-	-	-

Fifth: Summary of Learning Types in the Study Plan

Learning Type	Online	Blended	Face-to-Face
No. of credit hours	23	51	89
Percentage	14.11	31.29	54.6

Guidance Plan for Undergraduate Students specializing in surveying engineering

First Year							
First Semester				Second Semester			
Course No.	Course Title	Credits	Pre-requisite	Course No.	Course Title	Credits	Pre-requisite
0401101	Calculus 1	3	-	0401102	Calculus 2	3	0401101
0402101	Physics 1	3	-	0402102	Physics 2	3	042101
0402103	Practical physic lab 1	1	or 0402101CO.	0402104	Practical physic lab 2	1	Or 0402102 CO.
0703128	Engineering drawing and its applications in the computer	3	-	0401241	Linear algebra	3	-
0706102	Engineering shops	1	-	0901131	Computer Science-2 for Scientific Disciplines	3	-
0403101	Chemistry 1	3	-	0403103	Practical chemistry lab 1	1	0403101 Or CO.
				0704103	Climate Change and Environment	2	-
Total		14		Total		16	

Second Year							
First Semester				Second Semester			
Course No.	Course Title	Credits	Pre-requisite	Course No.	Course Title	Credits	Pre-requisite
0401203	Ordinary Differential Equations	3	0401102	0401201	Calculus 3	3	0401102
0705201	Surveying Fundamentals	3	0401101	0705221	Computer applications in surveying	3	0901131& 0705201
0705203	Surveying lab	1	0705201 or CO	0704202	Engineering Probability and Statistic	3	0401102
0706212	Mechanics (Statics & Dynamics)	3	0402102	0704201	Communications Skills and Technical Writing	2	-
0705231	Geology and geomorphology for surveying	3	-	0705279	Object-Oriented Programming for surveying students	3	0901131
-	Elective Courses	3	-	-	Compulsory Courses	3	-
Total		16		Total		17	

Third Year							
First Semester				Second Semester			
Course No.	Course Title	Credits	Pre-requisite	Course No.	Course Title	Credits	Pre-requisite
0705362	Mapping and geodetic positioning	3	0705474	0705333	Route surveying	3	0705334
0705332	Construction surveying	3	0705203	0705335	Route surveying lab	1	0705333 or CO.
0705334	Construction surveying lab	1	0705332 or CO.	0705454	Digital and Analytical Photogrammetry	3	0705353 & 0705343
0705343	Computation adjustment	3	0705201& 0401241&0704202	0705344	Cadastral surveying and land management	3	0705334
0705361	Geodesy principles	3	0705201 & 0705343	0705455	Digital and Analytical Photogrammetry lab	1	0705454 Or CO.
-	Compulsory Courses	3	-	0704301	Numerical Methods for Engineers	2	0401203
-	-	-	-	-	Compulsory Courses	3	
Total		16		Total		16	

Fourth Year							
First Semester				Second Semester			
Course No.	Course Title	Credits	Pre-requisite	Course No.	Course Title	Credits	Pre-requisite
0705461	Satellite Systems for Global Navigation	3	0705361	0705452	Digital mapping	3	0705474
0705463	Satellite Systems for Global Navigation lab	1	0705461 Or CO.	0705483	Principles of Remote Sensing	3	0705343
0705473	Principles of Geographic Information System (GIS)	3	0705201 & 0705362	0705484	Principles of Remote Sensing lab	1	0705483 or CO
0705474	Principles of Geographic Information System (GIS)lab	1	0705473 or CO	0705475	Spatial Information Programming	3	0705279 & 0705474
0704422	Engineering Economy	3	4th year level	0703485		3	4th year level
-	Elective Courses	3	-	-	Elective Courses	3	-
Total		14		Total		16	

fifth Year							
First Semester				Second Semester			
Course No.	Course Title	Credits	Pre-requisite	Course No.	Course Title	Credits	Pre-requisite
0705577	Geographic Information System Data Analysis	3	0705474	0705585	Satellite Image Processing And Analysis	3	0705484
0705578	Geographic Information System Data Analysis Lab	1	0705577 or CO	0705586	Satellite Image Processing And Analysis Lab	1	0705585 or CO
-	Elective Specialty Requirements	3	-	-	Elective Courses	3	-
-	Elective Courses	3	-	0705592	Graduation Project (2)	2	0705591 & 0705599
0705591	Graduation Project (1)	1	Pass 118 credited hours				
			-				
Total		11		Total		9	