## College of Engineering – University of Duhok

## **B.Sc. in Surveying Engineering Program Courses**

Second Year								
First Semester		Unit	Second Semester		Unit			
ES2011	Higher Surveying	4	ES2021	Engineering surveying	4			
ES2012	Mathematic I	3	ES2022	Mathematic II	2			
ES2013	Physics for Engineering	2	ES2023	Cadastral Surveying	3			
ES2014	Land Low	2	ES2024	Geomatic Data Management and Processing	3			
ES2015	Map projection	2	ES2025	Engineering Cartography	3			
ES2016	Computer programming	3	ES2026	Survey Instrumentation	3			

Third Year								
First Semester		Unit	Second Semester		Unit			
ES3011	Geodesy I	3	ES3021	Geodesy II	3			
ES3012	Photogrammetry	3	ES3022	Digital Photogrammetry	3			
ES3013	Digital Mapping and GIS	3	ES3023	MATLAB Application	3			
ES3014	Theory of error and adjustment	3	ES3024	Engineering Analysis	3			
ES3015	Basic of Highway Engineering	2	ES3025	Geometric design of Highway	3			
ES3016	Quantity Surveying and Construction Methods	3	ES3026	Construction Surveying	3			

## B.Sc. in Surveying Engineering Program Courses – Updated September 2021 College of Engineering – University of Duhok

Fourth Year									
First Semester		Unit	Second Semester		Unit				
ES4101	Fundamental of Satellite Positioning	3	ES4201	Global Positioning System (GPS)	3				
ES4102	Remote Sensing	3	ES4202	Application of Remote Sensing	3				
ES4103	Application of GIS	3	ES4203	Hydrographic and Mining Surveying	3				
ES4104	Urban Planning	2	ES4204	Regional Planning	2				
ES4105	Astronomy for Surveying	2	ES4205	Economics and Optimization process	2				
ES4106	Engineering Project	3	ES4206	Engineering Project	3				