

Form 2: Senior Project Proposal Form

Senior Design Project II

Course:	CE 499
Project Title:	Production of Survey Maps using GPS Satellite Receivers and Total Station
Supervisor (s)	Dr. Mahmoud T Azmi and Dr. Sameh S Ahmed

Description

This project aims to produce detailed maps (Cadastral and Topographic) of part of Majmaah city – KSA, using GPS devices and with the assistance of other field instruments such as the Total Station. A promising area of 4.2 hectares was chosen near Omar Bin Al Khattab Road in Majmaah city. The surveying work aims to produce contour maps of the area showing its terrain as topographic map and 3D representation that reveals the nature of the ground surface at the selected portion. Near the same area and to the east of the region, another area of about 5 hectares was selected with more rugged terrains. In both areas, the quantities of earthwork were calculated at assumed level and contour maps were produced using modern software (Surfer 15). The project also aims to establishment of some Ground Control Points (GCP). Also, a cadastral map for the area behind the Sporting city will be produced. Targeted maps will be produced using the above-mentioned software. All the observed field data were computationally processed before using the software in the mapping of the two regions and showing the shape of the earth's surface in three-dimensional forms and the work of representing some longitudinal sections at the study area. During this part of the project, students gained new and extensive experience in using GPS in monitoring operations and made use of the latest software used to produce maps. The maps produced from this project can be used to build a Geographical Information System (GIS) for Majmaah city after supporting it with other data on the study areas. The conducted surveying processes of careful measurement are important for the civil engineer in most of the applied work of settlement, land leveling and planning of roads. The project is practical training with field measurements, topography and global coordinate system and hopes to be a suitable qualification for engaging in the labor market in the area of Surveying and Transportation.

Objectives

To produce contour and cadastral surveying maps using GPS and Total Station

Special Requirements

Student selected this project should be completed Surveying 2 and GPS courses
 They should be familiar with using AUTOCAD and Excel Software's,

Requirements: (References, LAB, Software, etc.)

Ensure components	Task/Description	Confirm
AutoCAD	Software	OK
Surfer 15	Software	OK
GPS	Instruments and Books	OK
Excel	Software	OK
Total Station	Instruments	OK