

Course Syllabus
020STOGS1 Surveying

1. **Course number and name:** 020TOGS1 Surveying
2. **Credits and contact hours:** 2 credits – 17.5 hours
3. **Instructor's or course coordinator's name:** Saad SFEIR and Ghassan GHATTAS
4. **Textbook and other supplemental material:**
 - a. Instructor's class notes.
5. **Specific course information**
 - a. **Catalog description** Introduction to surveying. Geodesy and cartography. Levelling. Measuring instruments. Topographic plans. Profiles and volumes. Setting out techniques. Surveying base plan and official documents folder.
 - b. **Prerequisites:** Basic trigonometry and math.
 - c. **Required/Elective/Selected Elective:** Required course for all Civil Engineering students.
6. **Specific goals for the course**
 - a. **Specific outcomes of instruction:**

By the end of the course, the student will be able to:

 - understand the necessity of having a detailed land survey base plan prior to any construction design work
 - analyze and compute any required data on the construction site
 - perform on site building stake out
 - perform cut and fill volume calculations
 - b. **KPIs addressed by the course:**

KPI	a1	b3	k2
Covered	x	x	x
Assessed			
Give Feedback			

7. **Brief list of topics to be covered and approximate number of Hours:**
 - Introduction to surveying, plan coordinates, bearings, vertical and horizontal angles (2 Hours)
 - Introduction to geodesy and cartography, ellipsoid, geoid, geographic coordinates, projections. (2 Hours)
 - Introduction to the Lebanese cadastre (2 Hours)
 - Introduction to surveying equipment (1.5 Hours)
 - Angle measurements using the theodolite instrument (2 Hours)
 - Electronic distance measurement (EDM) (1 Hour)
 - Traversing using a total station (1.5 Hour)
 - Building and boundary stake out (1 Hour)
 - As built surveys (1 Hour)
 - Introduction to terrain modeling and volume calculation (2 Hours)
 - Leveling and leveling calculations (1.5 Hour)