

Surveying

1. **Course number and name:** 020STOGS1 Surveying
2. **Credits and contact hours:** 2 ECTS credits, 1x1.25 hours
3. **Name(s) of instructor(s) or course coordinator(s):** Said SFEIR
4. **Instructional Materials:**
 - 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 or co-requisites:** 020TOGNI4 or 020TOGCI4 Topography
 - c. **Required:** Required course for all Civil Engineering students.
6. **Educational objectives 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. **PI addressed by the course:**

PI	1.1	6.3
Covered	yes	yes
Assessed		

7. **Brief list of topics to be covered:**
 - 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)