

**Civil Engineering Department**  
**School of Engineering**  
**Jordan University**

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1. **Course number and name** : Surveying 0941283
2. **Class schedule** : 3 credits
  - a. Time and place: Thu. 08:00-09:00 & 09:00-12:00 at Civil. 103
  - b. Office hours: Mon., Wed., Thu. 09:00 – 12:00
3. **Instructor:** Prof. Mahmoud M.S. ALBATTAH
4. **Text book:** There is no **required** text for this course. *Suggested Textbook (optional)*
  1. Anderson, J.M. & E.M. Mikhail 1997 " Surveying Theory and Practice " McGraw-Hill
  2. Kavanagh, B.F. 2001. "Surveying with Construction Applications " Prentice-Hall 4th ed.
  3. Allan, A.L.1997 "Practical Surveying and Computations "Butterworth-Heinemann Rev. 2nd ed.
  4. Yousif M Siyam, .2003 "Principles of Surveying "The University of Jordan 3d ed.
  5. Make good use of internet resources
5. **Course Contents:**

The course is subdivided into modules according to the duration and effort designated for each one:

  1. Introduction to surveying : General areas of surveying, measuring system and units, reference surfaces (geoid and ellipsoid)
  2. Distance measurement techniques and equipment: Simple distance measurement and errors (Tape); Electronic Distance Measurement (EDM)
  3. Theodolite, Basic concepts of angle measurement and Directions ; Angle measurement techniques , Bearing
  4. Basic concepts of heights/datum/level lines; Leveling techniques and computations: Differential leveling, Trigonometric Leveling
  5. Topographic surveys: Scale precision, Cross- sections and profiles, Contouring Techniques
  6. Area Computations: Trapezoidal Technique, Simpson's rule, Area from coordinates, Graphical methods, Polar planimeter Volume Computations
  7. Area Computations: Trapezoidal Technique, Simpson's rule, Area from coordinates, Graphical methods, Polar planimeter Volume Computations
  8. Volume Computations: Using area of cross-sections (End Area Rule, Prismoidal Method); Volume from contours
6. **Course Goal & Expected Outcomes:**

After successfully completing the requirements of this course the student will be able to:

  1. Understand the roles and responsibilities of surveying professionals, and the comprehensive theories and applications of surveying.
  2. Read and record surveying field notes.
  3. Acquire a working knowledge of the fundamental concepts, equipment and calculations necessary to complete linear and angular measurements,

area computation, earth work computation, Setup, level, and operate the following surveying equipment: steel tape, level, transit, and total station.

**7. Topics covered:** Syllabus includes 45, 50-minute class periods and 1 two-hour final exam period

**8. Minimum student materials:** Text book, class handouts, engineering calculator

**9. Instructional methods:**

- a. Lecture/Problem solving sessions.
- b. Case studies.
- c. Homework.
- d. Mini project

**10. Assessment & Grading:**

Activities (Quizzes, Mini project, etc...)	:	20%
Midterm Exam	:	30%
Final exam	:	50%
<b>Total</b>	:	<b>100%</b>