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)**
      McGraw-Hill
      Prentice-Hall 4th 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%
    **Total** : **100%**