

COURSE NUMBER	SET 302
COURSE NAME	Geodetic Control Survey
COURSE STRUCTURE	(3-3-4) (lecture hr/wk - lab hr/wk – course credits)
COURSE DESCRIPTION	The study of the higher order methods and techniques of establishing control in surveying such as Global Positioning System (GPS) with observations of HARNs, 1 st , 2 nd and 3 rd Orders of accuracy along with the requisite computations to reduce these observations to measurements and the applications of these measurements to the State Plane Coordinate systems and the geoid.
PREREQUISITE(S)	CE 200 or equivalent
REQUIRED TEXT BOOKS	<p>A. Surveying: Theory and Practice, by J. M. Anderson and E. M. Mikhail, McGraw Hill, 7th Ed.</p> <p>B. GPS Theory and Practice, by B. Hofmann-Wellenhof, H. Lichtenegger and J. Collins, Springer-Verlag Wien, 5th Edition, 2001. Reading Assignment (pages): 1-38, 39-42, 63-68, 71-85, 87-97, 99-102, 124-126, 129-131, 133-180, 181-185, 186-192 203-233, 310-326, 330-353</p> <p>C. <u>2010 Celestial Observation Handbook and Ephemeris</u></p> <p>D. Text provided by the instructor.</p>
REQUIRED MATERIAL	Calculator, Engineering Computation Pad. FLASH LIGHTS
CLASS TOPICS	Classical surveying methods, geodetic control networks and network design. Introduction to Astronomy, Space-based positioning, Surveying with GPS.
COURSE LEARNING OUTCOMES (CLO)	<p>By the end of the course students should be able to:</p> <ol style="list-style-type: none"> 1. Identify the various types of geodetic control surveys and their underlying computations. 2. Characterize and classify geodetic control networks. 3. Demonstrate the use of modern tools to perform geodetic data reduction and graphing of survey control measurements 4. Theoretically and experimentally handle traditional geodetic and GPS network solutions 5. Write an effective laboratory/survey report 6. Present orally technical information in a professional and concise manner. 7. Effectively interact with other team members to analyze survey control problems and complete assignments. 8. Download and upload files with Moodle, as well as utilize other aspects of this learning management application
MODIFICATION TO COURSE	The Course Outline may be modified at the discretion of the instructor or in the event of extenuating circumstances. Students will be notified in class of any changes to the Course Outline.
COURSE COORDINATED BY	Dr. L. Potts