ConE 351- Field Engineering and Surveying
Spring Semester 2013

COURSE DESCRIPTION

This class requires a 100-minute lecture and a 100-minute laboratory per week. This course covers surveying instruments and methods related to construction projects.

PROFESSOR

Nilo Tsung  CEng, PE, PhD
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Department of Engineering and Technology
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CONTACT INFORMATION

Office: Room 204, AG/IT Building
Office Hours: 1:00 – 4:00 PM Mondays
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CLASS MEETINGS INFORMATION

Time: 9:20 – 11:00 AM Tuesday and Thursday
Location: Ag/IT Room 126

COURSE OBJECTIVE

1. Demonstrate the ability to work within a team environment.
2. Demonstrate an ability to solve plane surveying problems using appropriate mathematics.
3. Learn to use total stations and other surveying equipment to take observations.
4. Learn how to design a traverse, take observations, perform computations, and adjust and interpret the data.
REQUIRED COURSE MATERIALS


**Supplies:** Field book, straight edge, engineer’s scale, curve template, and triangle (at least one, either a 30 degree-60 degree-90 degree or 45 degree-45 degree-90 degree)

ATTENDANCE POLICY

Every student is expected to attend every class. No effort will be made to track down missing students and/or assignments. Each student is responsible for turning in the assigned work by the due time.

COURSE GRADING

Homework: 20%

Midterm exam: 40%

Final exam: 40%

GRADING SCALE

90-100%: A;

80-89%: B;

70-79%: C;

60-69%: D;

<60%: F.
### COURSE SCHEDULE (following schedule is subject to change)

<table>
<thead>
<tr>
<th>Week No. &amp; Dates (mm/dd – mm/dd)</th>
<th>Weekly Contents</th>
<th>Reading Assignments</th>
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| 1 (1/14-1/18)                    | • Understand course objectives, attendance and grading policy.  
                                    | • Introduction to surveying | Chapter 1 |
| 2 (1/21-1/25)                    | • MLK Holiday (Mon.)  
                                    | • Units, significant figures, and field notes | Chapter 2 |
| 3 (1/28-2/1)                     | • Theory of errors in observations | Chapter 3 |
| 4 (2/4-2/8)                      | • Leveling: theory, methods, and equipment | Chapter 4 |
| 5 (2/11-2/15)                    | • Leveling: field procedures and computations | Chapter 5 |
| 6 (2/18-2/22)                    | • Distance measurement | Chapter 6 |
| 7 (2/25-3/1)                     | • Angles, azimuths, and bearings | Chapter 7 |
| 8 (3/4-3/8)                      | • Review  
                                    | • Midterm Exam | |
| 9 (3/11-3/15)                    | **Spring break** | |
| 10 (3/18-3/22)                   | • Total station instruments and angle observations | Chapter 8 |
| 11 (3/25-3/29)                   | • Traversing | Chapter 9 |
| 12 (4/1-4/5)                     | • Traverse computations | Chapter 10 |
| 13 (4/8-4/12)                    | • Mapping surveys and mapping | Chapters 17 and 18 |
| 14 (4/15-4/19)                   | • Construction surveys | Chapter 23 |
| 15 (4/22-4/26)                   | • Horizontal curves | Chapter 24 |
| 16 (4/29-5/3)                    | • Vertical curves | Chapter 25 |
| 17 (5/4-5/10) Finals week        | **The final exam** will be held in the time scheduled by the university. | |