

**Oklahoma State University Institute of Technology**  
**Online Common Syllabus**  
Spring 2018

**CNS 1333 FIELD ENGINEERING III**

An introduction and application of plane surveying procedures and field problems related to linear and angular measurements, including coordinate geometry, differential leveling and topographic surveys. Application of theory involves the use of modern survey equipment including Total Stations and Data Collectors.

**Course Purpose:**

The purpose of this course is to continue development of layout techniques and use of instruments introduced in FE I and FE II.

**Type of Course:** Theory/Lab

**Credit Hours:** 3; Total clock hours of theory per semester: 50;

Total clock hours of lab per semester: 25.

**Class Length:** Full Semester

**Class Format:** Blended

**Class Days and Times:** Varies by section. W 11:00 – 12:55 or R 11:00 – 12:55

**Prerequisites:** Math 1613, CNS 1223

**Instructor Name:** Darren Woodard

**Instructor Phone:** (918) 293-4738

**Office:** CNS 1 Room #105

**Instructor Email:** [darren.woodard@okstate.edu](mailto:darren.woodard@okstate.edu)

**Contact:** My preferred method of contact is e-mail. Please allow 24-48 hours to return your correspondence during the normal work week.

**Instructor's Office Hours:** Posted on my office door or by appointment.

**School Name:** Construction Technologies

**School Main Phone:** 918-293-4742

**REQUIRED TEXT, REFERENCES, AND MATERIALS**

**Texts:** Construction Surveying & Layout, Crawford, Creative Construction, ISBN #096474210

**References:** W.P. Jackson, Building Layout ISBN # 0-910460-69-8. Jack B Evett ISBN# 0-13-87-8885-5

**Materials:** Arch. & Eng. Scales, Scientific Pocket Calculator with Trigonometric Functions TI-30xa (including User's Manual), Clipboard for Field Exercises. Field Book, and Flash drive

**Uniform/Tools:** 25' tape measure

**Estimated Cost for Materials:** \$ 250.00

**Estimated Cost for Uniform/Tools:** \$ 30.00

**Optional Resources:** None.

**Upon completion of the course, students should:**

<b>Course Objectives</b>	<b>Assessment of Objectives</b>
Reference and establish elevations	Projects, Reports, Field Tests
Perform Differential Leveling	Projects, Reports, Field Tests
Turn angles and directions	Projects, Reports, Field Tests
Measure angles and directions	Projects, Reports, Field Tests
Execute traverse adjustments and area computations	Projects, Reports, Field Tests
Execute a topographical survey	Projects, Reports, Field Tests
Demonstrate familiarity with basic land survey and property survey techniques	Projects, Reports, Field Tests
Complete a site layout using coordinate geometry (CoGo)	Projects, Reports, Field Tests
* Establish building controls for subsequent work	Projects, Reports, Field Tests
*Perform interior and exterior layout functions for various trades	Projects, Reports, Field Tests

Aspects of the course objective assessments may be used in the university's assessment of student learning. If applicable, an asterisk (\*) above indicates this assignment is used in the university assessment program.

### **COURSE ACTIVITIES**

In this course students will:

- Participate in class discussions and activities.
- View videos that depict the various concepts.
- Take examinations.
- Complete reading assignments.
- Complete exercises

### **EVALUATION - GRADES WILL BE BASED ON THE QUALITY AND COMPLETION OF THESE TASKS:**

Participation	20%
Lab Projects	50%
Final Exam	30%
<b>Total</b>	<b><u>100%</u></b>

<b>OSUIT Grading Scale</b>
A = 90%-100%
B = 80%-89%
C = 70%-79%
D = 60%-69%
F = 59% & below

\*The student's grade for this assignment will be used in the university's assessment of student learning. A 70% competency or higher receives a Pass rating. This Pass/Fail rating is independent of the student's course grade.

Daily and/or weekly quizzes, small weekly assignments and similar type projects: Normal return time to student by next class meeting or no later than one (1) week.

Extensive assignments, large lab projects, extensive quizzes, exams and similar type projects: Normal return time to students in one (1) to two (2) weeks.

### **RECOMMENDED STUDENT COMPETENCIES/SKILLS**

College Algebra, Trigonometry, and use of surveying instruments.

### **AUTHORIZED TOOLS**

Students may use any/all course materials, including books and notes, while participating in classroom activities. All quizzes and written assignments are to be completed independently; no collaboration with classmates is permitted and any instance of such will be considered academic dishonesty.

### **LATE WORK**

No late assignments will be accepted without prior arrangements

### **TESTING**

Exams will be taken on campus in the construction computer lab

### **OTHER LAB AND CLASSROOM POLICIES**

None

### **ONLINE COURSE INTERACTION**

OSUIT requires all online courses to include interaction between students, peers and instructors. Our online courses use a variety of tools to build a community of learners and strengthen engagement between students and their peers, as well as between students and the instructor. Communication tools used in courses may include Discussion, News, and Email. Read the syllabus completely to determine which of these methods you, your classmates and your instructor will use for interaction.

General guidelines for student conduct while interacting within an online course include: (1) Use proper language in all communications; (2) Harassment of any type will not be tolerated; (3) No jokes, insults or threats of an offensive nature.

For more information, go to: <http://osuit.edu/center/netiquette>

### **SYLLABUS ATTACHMENT**

View the Syllabus Attachment, which contains other important information, by visiting [http://osuit.edu/center/student\\_syllabus\\_information](http://osuit.edu/center/student_syllabus_information)

<b>Course Schedule</b>			
<b>Course Outline Schedule</b>	<b>Topic</b>	<b>Assignment</b>	<b>Due Date</b>
Week 1	Elevations		
Week 2	Differential Leveling	Lab #1	1-12-18
Week 3	Angles & Distance	Lab #2	1-19-18
Week 4	Angles & Distance Cont.	Lab#3	1-26-18
Week 5	Measuring Angles & Distance	Lab#4	2-02-18
Week 6	Traverse Calculations	Lab#5	02-09-18
Week 7	Traverse Calculations Cont.	Lab#6	2-16-18
Week 8	Traverse Calculations & Adjustments	Lab#7	2-23-18
Week 9	COGO	Lab#8	3-02-18
Week 10	Topographical Surveys	Lab #9	3-09-18
Week 11	Layout Project	Lab#10	3-30-18
<b>Spring Break</b>			
Week 12	Layout Project Cont.		
Week 13	Layout for Trades	Lab#11	4-06-18
Week 14	Final Exam Review		
Week 15	Final Exam	Final Exam	4-18-18 or 4-19-18

Schedule is subject to change at instructor discretion.