

**LAMAR UNIVERSITY**  
**DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING**

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CVEN 2270: Surveying (Introduction to Computer Aided Design and Surveying)  
FALL SEMESTER 2017

**Course Description:**

This introductory course is aimed at covering fundamental design concepts of AutoCAD as it relates to civil/construction engineering and the basic principles of surveying. The AutoCAD portion of the course will be aimed at introducing civil/construction plans, comprehending scale, understanding the basic operation of AutoCAD software, and 2D drawing skills for civil engineering systems. The surveying portion will cover introduction to surveying, basic surveying measurements, and vertical distance measurements.

**Student Learning Outcomes:**

1. Read civil/construction drawings generated by AutoCAD.
2. Use AutoCAD standards and commands for creating 2D drawings in civil/construction engineering.
3. Work as an individual/team to communicate, manage time, meet deadlines, resolve conflicts, etc.
4. Apply selected engineering design processes for creating a subdivision development
5. Work as groups for field practices, and need prepare reports and analyze measurements, and perform necessary computations for error adjustments.
6. Understand and discuss typical problems encountered in surveying and how they affect civil engineering design.
7. Understand and discuss the value of surveying to the civil engineering profession.

**ABET Outcomes:**

1. An ability to apply knowledge of mathematics, science, and engineering.
2. An ability to design and conduct experiments, as well as to analyze and interpret data.
3. Ability to function on multi-disciplinary teams.
4. An ability to communicate effectively.
5. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

**Pre-Requisites or Co-requisites:**

1. INEN 1101

**Textbook:**

**Required:**

Up and Running with AutoCAD 2016: 2D and 3D Drawing and Modeling, First Edition, 2016, by *Elliot Gindis*  
Theory and Practice (7th Edition), McGraw-Hill, 1998, by *James M. Anderson and Edward M. Mikhail*

**Meeting Time:**

Lecture: Friday, 12:40 p.m. – 1:35 p.m., Cherry #2104  
Laboratory: Friday, 1:50 p.m. – 4:40 p.m., Cherry #2104

**Instructor:**

Thinesh Selvaratnam, Ph.D., Cherry #2622, Ph. #: (409) 880-8712. Email: [tselvaratnam@lamar.edu](mailto:tselvaratnam@lamar.edu)

**Office Hours:**

1. W 10:00 a.m.-12:00 p.m.
2. By appointment

**Grade Distribution:**

Homework	10%
Two mid-terms	30%
Group Project	15%
Quizzes	5%
Final Exam	40%

**Grading Scale:**

Grades will be assigned on a straight scale, with some adjustment for the level of difficulty and overall class performance. If no adjustments are necessary, grades will be assigned as shown below:

A: ≥90, B: 80-89, C: 70-79, D: 60-69, F: <60

**Tentative Class Schedule:**

Week	Lecture	Lab	Homework
1	AutoCAD	AutoCAD Lab	HW #1
2	AutoCAD	AutoCAD Lab	HW #2
3	AutoCAD	AutoCAD Lab	HW #3
4	AutoCAD	AutoCAD Lab	HW #4
5	AutoCAD	AutoCAD Lab / Field practice*	HW #5
6	AutoCAD	Midterm I	
7	Surveying	Field practice*	HW #6
8	Surveying	Field practice*	HW #7
9	Surveying	Field practice*	HW #8
10	Surveying	Midterm II	HW #9
11	AutoCAD	AutoCAD Lab	HW#10
12		Group Projects	
13		Thanksgiving	
14		<b>Review</b>	
15		<b>Final Exam</b>	

\* In case of inclement weather, field practices will be postponed until the following week

**Course Policies:**

1. Class Meeting: This class will include a weekly one-hour lecture and three-hour laboratory session. Lecture material will be provided in the form of slides and demonstration material in the one-hour lecture. The laboratory will session be student-guided. All relevant information to the student will be uploaded in the Blackboard before the day of the lecture or laboratory. It is the students' responsibility to download the relevant content from the course website and bring it with you to the lecture and/or the session.
2. Attendance/Participation: Attendance for lectures and laboratory/Field is mandatory. Participants who miss **Six** lectures or Lab/field practices may be asked to attend this class in a subsequent semester with the tuition charge. When participants need to miss class for religious observance, or

- for a pressing personal or family matter, participants should contact instructor prior to missing lecture and to schedule for making up the lab experiments.
3. Homework and Quizzes: Homework and In-class assignment are instrumental in helping you grasp fundamental concepts and in exposing you to knowledge, techniques and skills for applying these principles to real-life situations. You may **discuss** problems with your classmates but please try them on your own first and **DO NOT COPY** someone else's solutions. Additionally, solutions must be written up independently. At last, **DO NOT EMAIL** your solutions to anyone. **No late homework** is accepted. All in-class assignments should be completed in the class without any exception. There will be 5 quizzes administered throughout the semester. The scheduled quiz dates will be provided in advance during lecture and laboratory sessions. Missing a quiz will result in a grade of zero. Only students with excused absences will be allowed to re-take a quiz; if the absence is excused, a new quiz time will be determined by the instructor.
  4. Student Work: At the end of each laboratory session assignment, the student will be required to submit their results. Instructions will provided on the assignment worksheet.
  5. Grade Disputes: All grades are considered final and unamendable on the date in which the final grades are posted on the Lamar University system. A student can file an appeal within 10 working days of this date if the instructor has failed to implement a previously announced grade policy, awarded a grade in what has been determined to be an arbitrary or capricious manner, or violated a University or Texas State University System rule or policy. The student should first meet with the instructor to resolve the issue prior to beginning the appeal process. Please reference the student handbook for further instruction.
  6. Academic Honesty Policy: Students are specifically warned against all forms of cheating and plagiarism. The Lamar University Student Handbook states: Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. Punishable offenses include, but are not limited to, cheating on an examination or academic work which is to be submitted, plagiarism, collusion, and the abuse of resource materials. One aspect of the Handbook's definition of cheating is, "purchasing, or otherwise acquiring and submitting as one's own any research paper or other assignment." Students seeking guidance to avoid plagiarism should consult the course instructor, recent handbooks, or the University Writing Center. Punishments for academic dishonesty range from F in the course, to an F on the assignment, to re-submission of the work. Punishments are at the discretion of the faculty member, and may be appealed to the department chair, dean, and Associate Vice President for Academic Affairs. Flagrant or repeat violations may warrant further discipline by the university including probation and suspension.
  7. Disability policy: Lamar University is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center (DRC) is located in the Communications building room 105. Office staff collaborate with students who have disabilities to provide and/or arrange reasonable accommodations.
    - If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical), please contact the DRC at **409-880-8347** or **drc@lamar.edu** to arrange a confidential appointment with the Director of the DRC to explore possible options regarding equitable access and reasonable accommodations.
    - If you are registered with DRC and have a current letter requesting reasonable accommodations, we encourage you to contact your instructor early in the semester to review how the accommodations will be applied in the course.
  8. Sexual harassment: University policy prohibits sexual harassment as defined in Student Handbook: Responsibilities of the Students. Complaints about sexual harassment should be reported to Human Resources, 880-8375.

9. Academic Continuity/ Campus Closure: In the event of an announced campus closure in excess of four days due to a hurricane or other disaster, students are expected to login to Lamar University's website's homepage (www.Lamar.edu) for instructions about continuing courses remotely.

### **Emergency Procedures:**

Many types of emergencies can occur on campus; instructions for severe weather or violence/active shooter, fire, or chemical release can be found at:

<http://www.lamar.edu/about-lu/administration/risk-management/index.html>. Following are procedures for the first two:

1. Severe Weather:

- Follow the directions of the instructor or emergency personnel.
- Seek shelter in an interior room or hallway on the lowest floor, putting as many walls as possible between you and the outside.
- If you are in a multi-story building, and you cannot get to the lowest floor, pick a hallway in the center of the building.
- Stay in the center of the room, away from exterior walls, windows, and doors.

2. Violence/Active Shooter (CADD):

- **CALL**- 8-3-1-1 from a campus phone (880-8311 from a cell phone). Note: Calling 9-1-1 from either a campus phone or cell phone will contact Beaumont City Police Dispatch rather than University Police.
- **AVOID**- If possible, self-evacuate to a safe area outside the building. Follow directions of police officers.
- **DENY**- Barricade the door with desks, chairs, bookcases or any other items. Move to a place inside the room where you are not visible. Turn off the lights and remain quiet. Remain there until told by police it is safe.
- **DEFEND**- Use chairs, desks, cell phones or whatever is immediately available to distract and/or defend yourself and others from attack.