



North South University
Department of Civil and Environmental Engineering (CEE)
CEE 110: Computer Aided Drawing (CAD) for Engineers
Summer 2018

Course Outline

Course Code: CEE 110

Course Title: Computer Aided Drawing (CAD) for Engineers

Course Instructor: Ms. Sifat Kalam
Lecturer, CEED
Room#SAC 738, Dept. of CEED
Email: kalam.sifat@northsouth.edu

Class Hours:

SECTION: Sec 2	DAYS: ST	TIME: 01:00 pm – 02:30 pm	ROOM NO: LIB 601
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Office Hours:

ST 11:20 AM-12:50 PM
MW 11:20 AM-12:50 PM and 01:00 PM-02:00 PM

Prerequisites: None

Contact Hours: Lecture – 3 Hours/week

Course Description (3.0 Credit Hours):

This course is designed to help the students to understand and learn the basics of engineering drawing and to introduce the students AutoCAD drawing tool. Course contents are as follows:

Introduction to Engineering drawing, Numbering and heading, Plane geometry, Solid geometry: Projections of cube, prism etc.; Developments and concept of true shapes and sections of cube, pyramid, cone, prism; isometric and oblique drawings. Plan, elevation and section of engineering structures; concept & reinforcement details of beams, columns, slabs, stairs etc. Introduction to Computer Aided Design (CAD).

Course Materials: All course materials will be provided in the university server common folder RESOURCE.

Suggested Reference: Class lectures and reading materials provided by the Instructor.

Texts:

1. Engineering Drawing by M.B. Shah & B.C. Rana
2. Engineering drawing: with an introduction to AutoCAD by Dhananjay A Jolhe
3. Fundamentals of engineering drawing by Cecil Jensen & Jay D. Helsel
4. Fundamentals of AutoCAD by Steven B. Combs & Jay H. Zirbel

Assignments and Class Assessments:

Assignments will be discussed during the class hours. Late submissions will be assigned a mark of zero. Also there may be pop quizzes (without prior notice) in the class to evaluate class performance. It is the student's responsibility to be present at the class regularly to attend these quizzes.

Course Instructional Learning Outcomes:

Upon successful completion of the course, the student will be able to achieve the following outcomes:

Objectives	Related to BSCEE Program outcome
1. Students will work on group projects to demonstrate their team building capacity along with individual performance and responsibility.	(d) an ability to function on multidisciplinary teams
1. Students will understand the fundamental concepts of different perspectives of engineering objects and learn to draw the views using engineering drawing equipments and	(k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Assessment Strategy:

Students will be assessed on: Assignments (3), Group Project (1), Quizzes (3), Midterm (1), Final Exam and Class performance.

Teaching Strategy:

Lecture, Power point presentation, Photos/Videos, One to one teaching of drawing using hand drawing equipments and AutoCAD software in the computer lab, Group project involving practical experiences.

Exam Policy:

Best 2 out of 3 Quizzes will be considered for class test grading. No Make-up class tests or Mid-term exam will be arranged. If needed, Class test or mid-term exam might be rescheduled due to unavoidable circumstances and prior notice will be given.

Grading policy:

NSU grading policy will be followed for the tentative course evaluation as follows:

Course Evaluation	100%
Assignment	10%
Project	10%
Class Attendance/Performance	10%
Class Test/Quiz	15%
Mid-Term Exam	25%
Final Exam	30%

Note:

- Class attendance must be more than **75%** to participate in **Final Examination**.
- A student must pass the final examination and submit all assignments to pass the course.
- No special permissions will be granted enabling a student to retain assignment or quiz marks from previous years.

Notice:

Students are responsible for regularly checking their email and notices posted outside the Civil and Environmental Engineering Department Office and also the **CEE110 NOTICE** subfolder in **Resource**.

Code of Conduct:

- Students are expected to arrive at class on time. Half attendance will be given if a student enters the classroom **within 15 minutes of class start**. After that no attendance will be given.
- It is highly requested to maintain **discipline** in the class and to conduct in a professional and respectful manner.
- Please **turn off your cell phone** before coming to a class, tutorial, quiz or exam. Electronic devices (Cell phone, Laptops, Tabs etc. are not allowed in the exam hall.)
- **Cheating and Plagiarism** will be considered as a serious **crime**.

On the premises of the University or at a University-sponsored program, students must abide by the Student Code of Conduct: <http://www.northsouth.edu/student-code-of-conduct.html>

Drawing Equipment:

1. Lead Pencils (2B and HB)
2. Set squares (30° – 60° drawing triangle and 45° drawing triangle-Large ones)
3. Compass, Dividers and card board scale and Geometry box
4. T square (i.e. "T" shape scale, 32" standard available in Bangladesh)
5. Scale
6. A4 Paper & Drawing Paper (28" × 22")
7. Masking Tape
8. Clean piece of cloth/Tissue paper

NB: Students must bring all necessary drawing equipment in the class regularly.

LECTURE SCHEDULE:

* One Day = 1.5 lecture hours, Total 24 days lecture = 36 lecture hours

Day*	Topics To be Covered	Activity
Day-1	Course overview & Introduction	Discussion
Day-2	Introduction to Engineering drawing, Numbering and heading, Line types etc.	Lecture
Day-3	Plane geometry	Lecture & Drawing
Day-4	Solid geometry	Lecture & Drawing
Day-5	Developments and concept of true shapes and sections, Concept of Projections	Quiz -1+Lecture
Day-6	Oblique Drawing of objects	Lecture & Drawing
Day-7	Isometric Drawing of objects and Isometric projections	Lecture & Drawing
Day-8	Orthographic projections of objects	Lecture & Drawing
Day-9	Plan, elevation and section of engineering structures	Quiz -2+ Lecture
Day-10	Building Plan	Drawing
Day-11	Building Elevation	Drawing
Day-12	Building Sectional View	Drawing
Day-13	Midterm	Exam
Day-14	Introduction to Computer Aided Design (CAD)	Lecture
Day-15	How to start using AutoCAD, Creating folder Saving a file, Opening an existing File & creating another file from that, Getting a Toolbar shortcut	Lecture AutoCAD Drawing
Day-16	Unit, Line, Selecting object by window/clicking, Erase, Erase All, Undo & Redo, Zoom All, Rectangle, Circle, Isometric Box	Lecture AutoCAD Drawing
Day-17	Text style & Text, ORTHO, OSNAP, GRID, DYN, dimension, Plot & Create PDF, Polygon, Move, copy, Offset, Arc,	Lecture AutoCAD Drawing
Day-18	Mirror, rotate, Trim, Extend, Scale, Array, Explode, Hatch, Layer, Line Type, Properties, Point Style, Divide, Donut	Lecture AutoCAD Drawing
Day-19	Building Plan	AutoCAD Drawing
Day-20	Building Elevation	AutoCAD Drawing
Day-21	Building Sectional View	Quiz -3+ AutoCAD Drawing
Day-22	Concept & reinforcement details of beams, columns etc.	Lecture AutoCAD Drawing
Day-23	Concept & reinforcement details of slabs, stairs etc.	Lecture AutoCAD Drawing
Day-24	Review	
	Final Exam	