Architecture and Engineering Design 1 – Course Code C17H13
Fall 2020/Spring 2021

Instructor: Jason Cardin
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Planning 3rd Period: 10:10 – 11:00

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Course Description, Credit Hours, and Prerequisites

Architectural & Engineering Design I is a foundational course in the Architecture & Construction cluster for students interested in a variety of engineering and design professions. Upon completion of this course, proficient students will be able to create technical drawings of increasing complexity and utilize these skills to complete the design process and communicate project outcomes. Students will build foundational skills in freehand sketching, fundamental technical drawing, and related measurement and math. Standards in this course also include career exploration within the technical design industry, as well as an overview of the history and impact of architecture and engineering. In addition, students will begin compiling artifacts for inclusion in a portfolio, which they will carry with them throughout the full sequence of courses in this program of study.

Program Objectives

The purpose of this class is to introduce students to the countless facets of engineering drawing & sketching as well as 2D and 3D CAD applications. Upon the successful completion of the course, the student will have developed and demonstrated basic understandings of the follow:

- Exploration of career paths
- Classroom safety and the purpose of engineering drawing and sketching
- Creating orthogonal and section views
- Dimensioning and tolerances
- Using 2D & 3D CAD software applications, interfaces, and drawing production environments
- Producing dimensionally accurate 2D mechanical "shop" drawings of a mechanical assembly and its related components
- Producing a mechanical drawing of high enough quality to be used in a portfolio
- Creating basic 3D CAD models

All objective areas are the same for levels 1, 2, & 3 but will increase in depth as you progress through the program.

State Standards

https://www.tn.gov/content/dam/tn/education/ccte/arch/cte_std_arch_eng_design_1.pdf

Texts: TBD and will be supplied by instructor

Materials to be instituted/required

- A set of drawing tools including
  - o a protractor;
  - o a compass &/or divider;
  - o a 30°-60°-90° triangle
  - o a 45° triangle

Note: *Staples has this in a kit for about $7*
https://www.staples.com/Staedtler-Geometry-Set/product_682871

- a 12" triangular Engineer's & Architectural scale (Amazon or Staples)
- A pad of 8-1/2" x 11' graph paper

→ → CHECK WITH FORMER STUDENTS FOR THESE ITEMS ←←
If purchasing any of these items is an issue, please let me know*

Note: a 1GB or greater USB storage device is recommended

Additional Materials to aid in success (at home)
Free AutoCAD student download:
https://www.autodesk.com/education/free-software/autocad#
(You should be able to create an account and download the software. *I am still working on this so let me know if you have issues.*)

Attendance Policy

Students are expected to attend classes regularly. Industrial jobs require employees to be on task to fulfill their needs of employment. **Attendance will be taken at some time during the class meeting**. Your presence and participation is very important. It is the student's responsibility to make arrangements for missed assignments.

If you know you are going to be absent from class (especially for an authorized activity), please let the instructor know before hand either in class or by an authorized person. If unique, individual problems arise, consult with the instructor as soon as possible.

Cleanup

Students will be required to clean up their work area before leaving at the end of the class. You will be expected to do your part in the cleanup promptly and properly.

Attitude and Academic Misconduct

Professional conduct is expected at all times. No horseplay or childish behavior will be tolerated. Show initiative and enthusiasm in your work. Respond to the instructor's request the first time you are asked to do something. Be courteous to everyone. Treat others the way you want to be treated. Profanity and inappropriate language **WILL NOT** be tolerated. **BY TAKING THIS CLASS, YOU ARE AGREEING TO ALL CLASSROOM RULES SET BY THE INSTRUCTOR.**

Plagiarism/Copying

Copying other's work and calling it your own is plagiarism; we do not and will not tolerate this serious type of cheating. Even within seemingly identical assignments, there will be numerous little differences amongst
submitted drawings. Anyone caught copying and turning in another student's files as his or her own will receive a zero for that assignment. A second attempt at cheating will result in failure of the class (F) for that student. ***In questions of possible plagiarism, the instructor reserves the right to require any student(s) to resubmit an assignment (with appropriate modifications).***

Evaluation and Grading

Assignment Percent

Daily Participation	50%
Drawing/CAD assignments	25%
Quizzes/Reports/Other	25%
TOTAL	**100%**

Grading	
A	100 - 93
B	92 - 85
C	84 – 75
D	74 – 70
F	69 - 0

Students with documented needs for note taking, test taking, or other classroom accommodations should make arrangements with the instructor early in the term.

National Technical Honor Society

As a student in a CTE course your child is eligible to join **National Technical Honor Society (NTHS)**. To be eligible students must be at least a sophomore, be a member of their CTSO, have 8 hours of community service, complete a NTHS application, and must have a 3.25 GPA.

Instructional Strategies

Lecture, discussion, demonstration, simulations, student reports/projects, teamwork, videos, guest speakers, research, games, & Internet activities.

Access to Instructional Materials

(In accordance with *Tennessee Code Annotated (T.C.A.) 49-6-7003,* any instructional materials that families would like to see will be made available by email request to teacher or principal.)