



Course Number and Title: AET 123 Architectural Drafting/Design I

Campus Location:

Georgetown, Dover, Stanton

Effective Date:

2018-52

Prerequisite:

ENG 090 or ENG 091, MAT 010 or concurrent, SSC 100 or concurrent

Co-Requisites:

None

Course Credits and Hours:

4.00 credits

3.00 lecture hours/week

3.00 lab hours/week

Course Description:

This course provides training and experience in modern drafting room procedure, practice, and principles. Topics include basic skills and techniques of drafting, freehand orthographic and pictorial sketching, geometric construction, multi-view projections, sectional views, auxiliary views, line types, lettering, dimensioning, notation, and use of drafting equipment and computer-aided design (CAD).

Required Text(s):

Obtain current textbook information by viewing the [campus bookstore - https://www.dtcc.edu/bookstores](https://www.dtcc.edu/bookstores) online or visit a campus bookstore. Check your course schedule for the course number and section.

Additional Materials:

None

Schedule Type:

Classroom Course

Disclaimer:

None

Core Course Performance Objectives (CCPOs):

1. Use drafting tools and equipment. (CCC 2, 5, 6; PGC 5, 6)
2. Use sketching techniques. (CCC 2, 5, 6; PGC 5, 6)
3. Draw geometric constructions. (CCC 2, 5, 6; PGC 5, 6)
4. Compose single and multi-views. (CCC 2, 5, 6; PGC 5, 6)
5. Delineate auxiliary views. (CCC 2, 5, 6; PGC 5, 6)
6. Draft plan views. (CCC 2, 5, 6; PGC 5, 6)
7. Prepare elevation views. (CCC 2, 5, 6; PGC 5, 6)
8. Draw section views. (CCC 2, 5, 6; PGC 5, 6)
9. Delineate axonometric views. (CCC 2, 5, 6; PGC 5, 6)
10. Produce a CAD model. (CCC 2, 5, 6; PGC 5, 6)

See Core Curriculum Competencies and Program Graduate Competencies at the end of the syllabus. CCPOs are linked to every competency they develop.

Measurable Performance Objectives (MPOs):

Upon completion of this course, the student will:

1. Use drafting tools and equipment.
 1. Prepare drafting paper, tools, and equipment for use on a drafting table.
 2. Use a paraliner or T-square to create horizontal lines.
 3. Employ combinations of triangles, protractors, and adjustable triangles to create vertical and angle lines.
 4. Identify and produce lines types and line weights that are representative of the line quality used in industry.
 5. Use drafting compasses and circle templates to create circles and arcs.
 6. Identify drafting media sizes and types.
 7. Interpret architectural and engineering scale units.
 8. Use architectural and engineering scale rulers and units.
 9. Identify and produce architectural and engineering style dimensions and annotation.
2. Use sketching techniques.

1. Identify various types of sketches, and identify the objects depicted.
 2. Sketch both two-and three-dimensional objects.
 3. Delineate parallel, perpendicular, and evenly spaced lines.
 4. Draft circles and arcs.
 5. Sketch objects to scale using grid media.
 6. Delineate the primary views of an orthographic drawing in proper orientation and alignment.
3. Draw geometric constructions.
 1. Draft a line, and bisect the line into equal length parts.
 2. Draw a line, and construct a second line that is parallel to the first line.
 3. Divide a line into multiple equal parts.
 4. Draw intersecting lines, and bisect the interior angles.
 5. Erect a perpendicular line from another line.
 6. Erect a perpendicular line from a point in space to a line.
 7. Inscribe a square in a circle.
 8. Construct a circle through three points.
 9. Draft an arc tangent to a horizontal and vertical line.
 10. Draw an ogee curve tangent to two parallel lines.
 4. Compose single and multi-views.
 1. Draft lines, arcs, and circles of specific sizes.
 2. Draw lines at specific angles.
 3. Construct irregular curves.
 4. Compose the three standard views of an object, including all of the proper conventions, placement, and alignment.
 5. Transfer the height, width, and depth between views.
 6. Identify and project surfaces appearing in each view.
 7. Name and draw visible, hidden, and center lines in each view.
 8. Draw and project normal, inclined, and oblique surfaces in all views.
 5. Delineate auxiliary views.
 1. Create an auxiliary view from an orthographic projection.
 2. Draw folding lines or reference-plane lines between any two adjacent views.
 3. Construct depth, height, and width auxiliary views.
 4. Construct partial auxiliary views.
 6. Draft plan views.
 1. Draw plan views from information provided.
 2. Indicate walls, doors, windows, and other architectural features.
 3. Draw hidden lines, and use various line weights for clarity.
 4. Arrange and organize dimensions and annotation.
 7. Prepare elevation views.
 1. Draw elevation views from information provided.
 2. Indicate walls, doors, windows, and other architectural features.
 3. Use various line weights for clarity.
 4. Arrange and organize dimensions and annotation.
 8. Draw section views.
 1. Draw sectional views from information provided.
 2. Indicate walls, doors, windows, and other architectural features.
 3. Draw hidden lines, and use various line weights for clarity.
 4. Arrange and organize dimensions and annotation.
 9. Delineate axonometric views.
 1. Construct axonometric views from information provided.
 2. Indicate walls, doors, windows, and other architectural features.
 3. Draw hidden lines, and use various line weights for clarity.
 4. Arrange and organize dimensions and annotation.
10. Produce a CAD model.
 1. Create an architectural model in CAD.
 2. Apply materials to the model for visual realism.
 3. Add light and shade to the model.
 4. Print the CAD model.

Evaluation Criteria/Policies:

Students must demonstrate proficiency on all CCPOs at a minimal 75 percent level to successfully complete the course. The grade will be determined using the Delaware Tech grading system:

92	-	100	=	A
83	-	91	=	B
75	-	82	=	C
0	-	74	=	F

Students should refer to the [Student Handbook - https://www.dtcc.edu/handbook](https://www.dtcc.edu/handbook) for information on the Academic Standing Policy, the Academic Integrity Policy, Student Rights and Responsibilities, and other policies relevant to their academic progress.

Final Course Grade:

Calculated using the following weighted average

Evaluation Measure	Percentage of final grade
Drafting Assignments (formative)	25%
Floor Plans (summative)	10%
Building Section Views (summative)	15%
Elevation Views – Exterior & Interior (summative)	10%
Axonometric Projections (summative)	10%
CAD modeling (formative)	15%
Quizzes / Classroom Participation (summative)	15%
TOTAL	100%

Core Curriculum Competencies (CCCs are the competencies every graduate will develop):

1. Apply clear and effective communication skills.
2. Use critical thinking to solve problems.
3. Collaborate to achieve a common goal.
4. Demonstrate professional and ethical conduct.
5. Use information literacy for effective vocational and/or academic research.
6. Apply quantitative reasoning and/or scientific inquiry to solve practical problems.

Program Graduate Competencies (PGCs are the competencies every graduate will develop specific to his or her major):

1. Research and analyze existing site conditions.
2. Apply principles of sustainability to the built environment.
3. Employ the architectural design process.
4. Interpret and apply building codes.
5. Create technical drawings and presentation graphics.
6. Demonstrate a commitment to quality, timeliness, professional development, and continuous improvement.

Disabilities Support Statement:

The College is committed to providing reasonable accommodations for students with disabilities. Students are encouraged to schedule an appointment with the campus Disabilities Support Counselor to request an accommodation needed due to a disability. A listing of campus Disabilities Support Counselors and contact information can be found at the [disabilities services - https://www.dtcc.edu/disabilitysupport](https://www.dtcc.edu/disabilitysupport) web page or visit the campus Advising Center.