

Architectural Drafting - Residential
DFTG 1417
Semester and Year

Instructor —

Synonym —

Section Number —

Class Hours —

Office —

Office Hours —

Phone —

Email —

Please contact me if you wish to meet with me outside of regular office hours or to report an excused absence.

COURSE RATIONALE

Students are required to integrate spatial understanding, a broad knowledge of construction materials and methods, and the standards and practices of orthographic drafting in order to produce a cohesive set of construction drawings. Students apply AutoCAD tools and techniques to the comprehensive process of drafting a single family residence.

COURSE DESCRIPTION

Architectural drafting procedures, practices, and symbols. Preparation of detailed working drawings for residential structures. Emphasis on light frame construction methods.

PREREQUISITES

DFTG 1405 Technical Drafting

REQUIRED TEXTS/MATERIALS

Textbook

Building Construction Illustrated, Current Edition, by Ching, Wiley Publishers

STUDENT LEARNING OUTCOMES

Course-Level Student Learning Outcomes

Upon successful completion of the course, students will be able to:

Utilize architectural terms, symbols, residential construction materials, and processes to produce a set of residential construction drawings including site plan, floor plan, elevations, wall sections, schedules, details, and foundation plan using reference materials (source WECM manual end-of-course outcome).

PROGRAM-LEVEL STUDENT LEARNING OUTCOMES

At the completion of the AAS degree –Architectural Specialization - the student will be able to:

- A1.** Operate AEC (Architecture/Engineering/Construction) software including computer aided drafting (CAD), building information modeling (BIM), and 3D modeling applications to plan and prepare construction documents and technical graphics appropriate to the architectural and construction industries.
- A2.** Utilize various architectural drawing types and determine their appropriate uses in architectural projects to demonstrate knowledge of building systems and familiarity with building codes.
- A3.** Demonstrate knowledge of architectural concepts of foundational architecture courses as outlined in the 2014 Student Performance Criteria (SPC) established by the National Architectural Accrediting Board (NAAB).
- I1.** Utilize CAD software to plan and prepare documents and technical graphics appropriate to a range of design, manufacturing, and construction industries.

SCANS COMPETENCIES

ARCHITECTURAL & ENGINEERING CAD SCANS FIVE COMPETENCIES

Courses	Resources				Interpersonal				Information				Systems		Technology					
	C1 Allocates Time	C2 Allocates Money	C3 Allocates Material	C4 Allocates Human Resources	C5 Participates as a Member of a Team	C6 Teaches Others	C7 Serves Clients/Customers	C8 Exercises Leadership	C9 Negotiates to Arrive at a Decision	C10 Works with Cultural Diversity	C11 Acquires & Evaluates Information	C12 Organizes & Maintains Information	C13 Interprets & Communicates Information	C14 Uses Computers to Process Information	C15 Understands Systems	C16 Monitors & Corrects Performance	C17 Improves & Designs Systems	C18 Selects Technology	C19 Applies Technology to Task	C20 Maintains & Troubleshoots Technology
ARCE 1452	✓		✓								✓	✓	✓	✓	✓			✓	✓	✓
DFTG 1405	✓				✓						✓	✓	✓	✓	✓			✓	✓	✓
DFTG 1413	✓				✓			✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DFTG 1417	✓										✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DFTG 1433	✓	✓	✓		✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	
DFTG 1445	✓		✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	
DFTG 1458	✓										✓	✓	✓	✓	✓	✓	✓	✓	✓	
DFTG 1475	✓		✓		✓		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	
DFTG 1491*	✓							✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	
DFTG 1493	✓							✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	
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DFTG 1495	✓										✓	✓	✓	✓	✓	✓	✓	✓	✓	
DFTG 2400	✓				✓						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DFTG 2402	✓										✓	✓	✓	✓	✓	✓	✓	✓	✓	
DFTG 2405	✓										✓	✓	✓	✓	✓	✓	✓	✓	✓	
DFTG 2412	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DFTG 2419	✓										✓	✓	✓	✓	✓	✓	✓	✓	✓	
DFTG 2421	✓					✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DFTG 2427	✓					✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
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DFTG 2430	✓						✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DFTG 2431	✓										✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DFTG 2432	✓										✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DFTG 2436	✓				✓						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DFTG 2440	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DFTG 2470	✓										✓	✓	✓	✓	✓	✓	✓	✓	✓	
DFTG 2471	✓										✓	✓	✓	✓	✓	✓	✓	✓	✓	
DFTG 2473	✓				✓						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
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DFTG 2477	✓		✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MCHN 1419	✓			✓	✓				✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ENGLISH																				
MATH																				
Oral Communication																				
Arts & Humanities																				
Social Behavior & Science																				

* = Capstone

ARCHITECTURAL & ENGINEERING CAD SCANS COMPETENCIES

FOUNDATION SKILLS

Courses	Basic Skills					Thinking Skills					Personal Qualities					
	Reading	Writing	Arithmetic/Mathematics	Listening	Speaking	Creative Thinking	Decision Making	Problem Solving	Visualizing	Knowing How to Learn	Reasoning	Responsibility	Self-Esteem	Sociability	Self-Management	Integrity/Honesty
ARCE 1452	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓
DFTG 1405	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
DFTG 1413	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
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DFTG 1433	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
DFTG 1445	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
DFTG 1458	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
DFTG 1475	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
DFTG 1491*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
DFTG 1493	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
DFTG 1494	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
DFTG 1495	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
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DFTG 2402	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
DFTG 2405	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
DFTG 2412	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DFTG 2419	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DFTG 2421	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
DFTG 2427	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
DFTG 2428	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
DFTG 2430	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
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DFTG 2470	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
DFTG 2471	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
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DFTG 2477	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MCHN 1419	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ENGLISH																
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* = Capstone

COURSE EVALUATION/GRADING SCHEME

Final grades are based on drawing assignments, quizzes, and class participation. Quizzes are given to test and reinforce the material offered in class. All drawings and assignments are graded for appearance and neatness as well as technical correctness. Grade determination is based on the following, given as a percentage of the total points:

Drawing Assignments – 77%

Quizzes – 8%

Final Portfolio – 11%

Class Participation – Given as points not included in total possible points, equivalent to a maximum of about 1% of the total points possible.

INSTRUCTIONAL METHODOLOGY

This course is taught in the classroom in a lecture/laboratory format. The lecture will generally introduce concepts and skills, which will then be developed and applied in the laboratory.

OPEN LABS

Hours for the open lab will coincide with the tutoring schedule which will be posted during the first week or two of the semester. **You may not be able to complete all the assignments in class**, so the open lab is one of your best opportunities to get help in finishing the lab exercises.

COURSE OUTLINE/CALENDAR

(Note: Schedule subject to change depending on pace of course)

Unit 1: Introduction to Architectural Drawings & Floor Plan

Introduction to Residential Architecture

- Understanding specifics of residential architecture (scale, etc.) – view examples of famous or architecturally significant residences

Introduction to Residential Arch. Drawings & Floor Plan

- Drawings need to be accurate b/c these are conveying information of what will be built: construction documents
- Need to have an understanding of each drawing type and its purpose within drawing set

- In class, understand what you are drawing: emphasize spatial understanding and 3D thinking
- Note which drawings would typically be included in an architectural set & their corresponding scales
- Floor plan: What is a floor plan? Horizontal cut through building at approx. 4' off of fin. floor and other specifics
- Plan drawn in steps: layering of information (highlighted plan) broad, then specific

Introduction to Building Codes

- Model Building Codes
- Egress
- LEED & Green Building Standards

AutoCAD 201? Topics covered:

- Drawing Template Files
- Line Types
- Dimension Styles & Architectural Dimensions
- Quick Leaders
- Advanced Layer Tools
- AIA CAD Layer Standards
- Design Center & Blocks
- Use of Dynamic Blocks & Block Editor
- Working with Annotations
- Model Space & Paper Space setup
- Layout Tabs
- Viewport setup & scale
- Page Setup Manager
- Printing from Layouts

Unit Two: Exterior Elevations

Introduction to Exterior Elevations

- Orthographic Projection & Purpose of Elevations
- Creating Elevation Views
- Viewports & UCS's
- Roof Plans, Roof Shapes & Terminology
- Roof Exercise
- Exterior Building Materials

Textbook Topics covered:

- Chapter 6 in Ching book (Roof Systems)

AutoCAD 2012 Topics covered:

- Creating Named UCS's / Named Views

Unit Three: Wall Section & Details

Introduction to Wall Section & Details

- Purposes of Wall Sections & Details: shows materials, construction techniques
- Creating a Wall Section in AutoCAD
- Framing Lecture: video, handout & quiz
- Wall Section specifics & terminology
- Stair design guidelines

AutoCAD 2012 Topics covered:

- Working with Multileaders
- Viewports: Different scales on a sheet & Layer visibility

Unit Four: Foundations

Introduction to Foundations

- Plan view of foundation information shown in Wall Section
- Review basic residential foundation types
- Relationship of soil to foundation design
- Structural drawing conventions: S series, drop symbols, sloping surfaces

Unit Five: Electrical Plan

Introduction to Electrical Plans

- Electrical Code overview
- Electrical placement guidelines
- Cabling, Fixtures, Outlets (inc. GFCI)
- Electrical Plan drawing conventions: schematic locations only and linetypes
- Electrical Legend

AutoCAD 2012 Topics covered:

- Tool Palettes

Unit Six: Interior Elevations

Introduction to Interior Elevations

- Purpose of Interior Elevations
- Note critical heights for elevations & human ergonomics
- Review of interior finish materials
- Cabinetry layout guidelines
- Note dimensions of typical cabinet sections

Unit Seven: Site Plan

Introduction to Site Plans

- Purpose of Site Plan in Architectural and Civil Drawings
- Land Development Code, Zoning, Easements & McMansion Ordinance
- Dimension styles, dimensioning standards and site plans

AutoCAD 2012 Topics covered:

- Working with External References - XREFS
- Creating a Custom Scale
- 'ScaleListEdit' command

Unit Eight: Schedules

Introduction to Schedules

- Schedule types & creation
- Door tags & schedules

- Window tags & schedules

FINAL PROJECT: Student Portfolios & Drawing Files

- Note Portfolio Requirements
- Show sample portfolios from previous semesters
- 11" x 17" format
- Cover Sheet and General Notes sheet are new for this assignment
- Two portfolio sets, one showing highlighted corrections

COURSE/DEPARTMENTAL POLICIES

Attendance/Class Participation

Students accruing more than two (2) UNEXCUSED absences may be withdrawn from the course at the instructor's discretion. Students may make-up absences by attending other classes. It is the student's responsibility to inform instructor when circumstances prevent him/her from attending class. An instructor may lower a student's final grade for a course due to excessive absences.

Cell Phones

To avoid disturbing or distracting others during class or open lab times, students are requested to conduct personal communications of any sort outside of the classrooms. For this reason, the use of cell phones and other PDA's by students is prohibited inside A&E CAD classrooms (this includes placing or receiving phone calls, text messages and emails). When conducting personal communication in the hallways, please control the volume of your voice so as not to disturb students in nearby classrooms.

Withdrawal Policy

Course withdrawals may occur at any time after the official reporting date of a semester and up to the established deadline for withdrawals in each semester. The established deadline is listed in the course schedule and on the Web.

It is the responsibility of each student to ensure that his or her name is removed from the roll if he or she decides to withdraw from the class. The instructor does, however, reserve the right to drop a student should he or she feel it is necessary. If a student decides to withdraw, he or she should also verify that the withdrawal is submitted before the Final Withdrawal Date. The student is also strongly encouraged to retain their copy of the withdrawal form for their records.

Initiation of Withdrawals:

Withdrawals from a course result in a grade of "W" and may be affected through action taken by either the student, the course instructor, or the instructor's immediate supervisor in the instructor's absence. Students who wish to withdraw from specific courses should initiate withdrawal procedures with the Campus Admissions and

Records Office prior to the published deadline for withdrawals. Students who are not withdrawn as of the established deadline will receive a performance grade (A, B, C, D, or F). Students must present a picture I.D. to withdraw from the course.

Students who enroll for the third or subsequent time in a course taken since Fall, 2002, may be charged a higher tuition rate, for that course.

State law permits students to withdraw from no more than six courses during their entire undergraduate career at Texas public colleges or universities. With certain exceptions, all course withdrawals automatically count towards this limit. Details regarding this policy can be found in the ACC college catalog.

Incompletes

The grade of "I" (for Incomplete) may be given by an instructor for a course in which a student was unable to complete all of the objectives for the passing grade. A grade of "I" cannot be carried beyond the established date in the following semester or session. The completion date is determined by the instructor, but may not be later than two weeks prior to the end of the semester. The Department Chair will approve a change from "I" to a performance grade (A, B, C, D, F) for the course prior to or at the deadline.

Consideration should be given to course load and job and family obligations when carrying an "I" grade into a new semester for completion. Grades of "I" that are not resolved by the deadline will automatically be converted to a grade of "F." In extreme cases, permission may be granted to carry an "I" grade for longer than the following semester or session deadline; this must have the approval of the Dean.

Statement on Scholastic Dishonesty

Academic work submitted by students shall be the result of their own thought, research or self-expression. For purposes of this rule, academic work is defined as, but not limited to tests and quizzes, whether taken electronically or on paper; projects, either individual or group; papers; classroom presentations; and homework.

Reproduction or transmission of A&E CAD Departmental Check Prints in any manner (including photography and scanning) is a violation of the A&E CAD department's Scholastic Dishonesty policy.

Sharing a drawing file of a class project with another student, or representing the file of another student as your own work, is a violation of the department's Scholastic Dishonesty policy.

When students borrow ideas, wording or organization from another source, they shall reference that information in an appropriate manner. Representing the work of another person as your own work is considered scholastic dishonesty by the A&E CAD department. Students accused of scholastic dishonesty will be subject to the procedures outlined in the Policies and Procedures for Academic Dishonesty section of the ACC Student Handbook.

Student Rights and Responsibilities

Students at the college have the rights accorded by the U.S. Constitution to freedom of speech, peaceful assembly, petition, and association. These rights carry with them the responsibility to accord the same rights to others in the college community and not to interfere with or disrupt the educational process. Opportunity for students to examine and question pertinent data and assumptions of a given discipline, guided by the evidence of scholarly research, is appropriate in a learning environment. This concept is accompanied by an equally demanding concept of responsibility on the part of the student. As willing partners in learning, students must comply with college rules and procedures.

Statement on Students with Disabilities

Each ACC campus offers support services for students with documented disabilities.

Students with disabilities who need classroom, academic or other accommodations must request them through the Office for Students with Disabilities (OSD). Students are encouraged to request accommodations when they register for courses or at least three weeks before the start of the semester, otherwise the provision of accommodations may be delayed.

Students who have received approval for accommodations from OSD for this course must provide the instructor with the 'Notice of Approved Accommodations' from OSD before accommodations will be provided. Arrangements for academic accommodations can only be made after the instructor receives the 'Notice of Approved Accommodations' from the student.

Students with approved accommodations are encouraged to submit the 'Notice of Approved Accommodations' to the instructor at the beginning of the semester because a reasonable amount of time may be needed to prepare and arrange for the accommodations.

Additional information about the Office for Students with Disabilities is available at <http://www.austincc.edu/support/osd/>

Safety Statement

Austin Community College is committed to providing a safe and healthy environment for study and work. You are expected to learn and comply with ACC environmental, health and safety procedures and agree to follow ACC safety policies. Additional information on these can be found at <http://www.austincc.edu/ehs>. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the Emergency Procedures poster and Campus Safety Plan map in each classroom. Additional information about emergency procedures and how to sign up for ACC Emergency Alerts to be notified in the event of a serious emergency can be found at <http://www.austincc.edu/emergency/>.

Please note, you are expected to conduct yourself professionally with respect and courtesy to all. Anyone who thoughtlessly or intentionally jeopardizes the health or safety of another individual will be dismissed from the day's activity, may be withdrawn from the class, and/or barred from attending future activities.

You are expected to conduct yourself professionally with respect and courtesy to all. Anyone who thoughtlessly or intentionally jeopardizes the health or safety of another individual will be immediately dismissed from the day's activity, may be withdrawn from the class, and/or barred from attending future activities.

Use of ACC email

All College e-mail communication to students will be sent solely to the student's ACCmail account, with the expectation that such communications will be read in a timely fashion. ACC will send important information and will notify you of any college related emergencies using this account. Students should expect to receive email communication from their instructor using this account unless other arrangements have been made. Likewise, students should use their ACCmail account when communicating with instructors and staff. Instructions for activating an ACCmail account can be found at <http://www.austincc.edu/accmail/index.php>.

Blackboard (Bb)

Blackboard will be used for some portion of this course to include but not limited to:

- Distribution of handouts and readings
- Submissions of assignments and activities
- Grading

As instructed by your professor, students may be required to access instructional materials via Blackboard.

Students and Instructional Services

ACC strives to provide exemplary support to its students and offers a broad variety of opportunities and services. Information on these services and support systems is available at: <http://www.austincc.edu/s4/>

Links to many student services and other information can be found at:
<http://www.austincc.edu/current/>

For help setting up your ACCeID, ACC Gmail, or ACC Blackboard, contact ACC Helpdesk at helpdesk.austincc.edu or 223-HELP.

Freedom of Expression:

Each student is strongly encouraged to participate in class. In any classroom situation that includes discussion and critical thinking, there are bound to be many differing viewpoints. These differences enhance the learning experience and create an atmosphere where students and instructors alike will be encouraged to think and learn. On sensitive and volatile topics, students may sometimes disagree not only with each other but also with the instructor. It is expected that faculty and students will respect the views of others when expressed in classroom discussions. All discussion or conversation in the classroom should be appropriate and respectful of others.

Ownership of Student Work

The Architectural & Engineering Computer Aided Design (A&E CAD) Department reserves the right to retain any and all student work (including but not limited to: original work, scans, photographs, and copies of student work) completed as A&E CAD course work for the purposes of documentation, accreditation, evidence of student performance, university transfer, marketing or any other purpose supporting the mission of the Department and Austin Community College.

Concealed Handgun Policy

The Austin Community College District concealed handgun policy ensures compliance with Section 411.2031 of the Texas Government Code (also known as the [Campus Carry Law](#)), while maintaining ACC's commitment to provide a safe environment for its students, faculty, staff, and visitors.

Beginning August 1, 2017, individuals who are licensed to carry (LTC) may do so on campus premises except in locations and at activities prohibited by state or federal law, or the college's concealed handgun policy.

It is the responsibility of license holders to conceal their handguns at all times. Persons who see a handgun on campus are asked to contact the ACC Police Department by dialing 222 from a campus phone or 512-223-7999.