



Architectural Drafting - Residential (DFTG 1317)

Credit: 3 semester credit hours (2 hours lecture, 4 hours lab)

Pre-requisite/Co-requisite: DFTG 1305, DFTG 1309

Course Description

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

Required textbook and materials

1. *Drafting and Design for Architecture and Construction*, 9th ed., Hepler, Wallach, Hepler, Delmar Cengage
 - a. ISBN number is 978-1-8269-1217-6
2. Flash Drive – 1GB minimum
3. Access to computer with AutoCAD
4. Notebook

Course Objectives

Upon completion of this course, the student will be able to:

1. Demonstrate an understanding of light frame building components
2. Demonstrate an understanding of light frame construction methods
3. Demonstrate an understanding of the principles of working drawings
4. Demonstrate competency in preparing working drawings for residential structures.
5. Demonstrate an understanding of terms, symbols, practices and procedures involved in residential drafting
6. Demonstrate competency in utilizing residential materials in residential drafting
7. Demonstrate an ability to use reference materials in order to create working drawings based on an assigned project programming
8. Demonstrate competency in detail-oriented plans that include dimensioning, multiple scale drawings, and sections

Course outline

- A. Introduction
 1. Introduction of faculty and students
 2. Review Syllabus
 3. Review Class Policies
 4. Review Lab Assignments

DFTG 1317 Course Syllabus

- B. Professional Architectural Careers
 - 1. Drafter/CAD Technician
 - a. The Entry-Level CAD Drafter
 - b. The Experienced Technician/Detailer
 - c. Employment Opportunities
 - d. Educational Requirements
 - e. Educational Recommendations
 - f. Personal Requirements
 - g. Workplace Ethics
 - h. Copyright Protection
 - 2. Designer
- C. Exploring Residential Design and Professional Practice: Design Basics
 - a. Financial Considerations
 - b. The Client
 - 1. The Design Process
 - a. Initial Contact
 - b. Preliminary Design Studies
 - c. Room Planning
 - d. Initial Working Drawings
 - e. Final Design Considerations
 - f. Completion of Working Drawings
 - 2. Permit Procedures
 - 3. Job Supervision
- D. Common Scales used in Architecture
 - a. Architect's Scale
 - b. Civil Engineer's Scales
 - c. Metric Scales
 - 1. Common Types of Drawings
 - 2. The Theory of Orthographic Projection
 - a. The Glass Cube
 - b. Freehand Sketching
 - c. Sketching Techniques
 - d. Sketching Straight Features
 - e. Sketching Circular Features
 - f. Keeping Proportions in Freehand Sketches
 - g. Isometric Sketches
 - 3. Drawing Layout Using a Computer
 - 4. Applying Math Skills in an Electronic World
 - a. Standard Units of Measurement of Length and Area
 - b. Working with Linear Foot Measurements
 - c. Working with Board Foot
 - d. Using Square Foot, Square, and Cubic Measurements
 - e. Geometric Calculations of Area and Volume
- E. Managing Your CAD Work Environment
 - 1. Equipment
 - 2. Work Habits

DFTG 1317 Course Syllabus

- F. National Building Codes
 - 1. National Code Options
 - 2. International Model Codes
 - 3. Choosing the Right Code
 - 4. Basic Tools of the Model Codes
- G. Interior Design Considerations
 - 1. Living Areas
 - 2. Sleeping Areas
 - 3. Service Area
 - 4. Traffic Patterns
 - 5. Providing Universal Accessibility
- H. Exterior Styles and Considerations
 - 1. Elements of Design
 - 2. Principles of Designs
 - 3. Common Plan Styles
 - 4. Common Residential Styles
- I. Environmental Design Considerations
 - 1. Zoning
 - 2. Integration of the Home to the Site
- J. Land Descriptions and Drawings
 - 1. Legal Descriptions
 - 2. Land Drawings
 - 3. Site Related Drawings
 - 4. Site Related Drawing Layouts
- K. Floor Plans – Symbols, Annotation and Dimensions
 - 1. Symbols
 - 2. Dimensions
 - 3. Annotation
 - 4. Floor plan layout
 - 5. Using CAD
- L. Roof Plans
 - 1. Symbols
 - 2. Dimensions
 - 3. Annotation
 - 4. Roof plan layout
 - 5. Using CAD
- M. Foundation Plans
 - 1. Symbols
 - 2. Dimensions
 - 3. Annotation
 - 4. Foundation plan layout
 - 5. Using CAD
- N. Elevations
 - 1. Symbols
 - 2. Dimensions
 - 3. Annotation
 - 4. Elevation layout

DFTG 1317 Course Syllabus

5. Using CAD
- O. Electrical Plans
 1. Symbols
 2. Dimensions
 3. Annotation
 4. Elevation layout
 5. Using CAD
- P. Plumbing and HVAC
 1. Symbols
 2. Dimensions
 3. Annotation
 4. Elevation layout
 5. Using CAD
- Q. Final Project
 1. Set of working Drawings
 2. Dimensions
 3. Annotation
 4. Using Manual & Microstation to draw

Course Evaluation

Varies per instructor

Course requirements

1. Read chapters and complete reviews
2. Study handouts
3. Complete drawings
4. Attend class and take notes from lectures

Attendance Policy (all work during absence must be made up)

Varies per instructor

Course Policies

1. No food, drinks or use of tobacco products in class.
2. No foul or harsh language will be tolerated.
3. Turn off all cell phones during lectures.
4. Do not bring children to class.
5. No cheating of any kind will be tolerated. Students caught cheating or helping someone to cheat can and will be removed from the class for the semester. Cheating can result in expulsion from LIT.
6. If you wish to drop a course, the student is responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course you will earn an "F" in the course.
7. Back-ups

It is the student's responsibility to make back-up copies of their work. Do not rely on the server to be there 100% of the time. I cannot help you if you lose your work. Remember that in order for your work to be graded it must be turned in.

8. Internet usage

- a. Classroom computers have access to the internet.
- b. Student usage of the internet will be monitored.
- c. Proper usage of the internet will be allowed to be used for classroom research or as directed.
- d. Any unauthorized use of the internet will not be tolerated.
- e. Improper usage of the internet, such as profanity, pornography, gambling, etc. will result in disciplinary action not limited to expulsion from LIT.

Disabilities Statement

The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409) 880-1737 or visit the online resource:

<http://www.lit.edu/depts/stuserv/special/defaults.aspx>

Student Code of Conduct Statement

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. The *LIT Catalog and Student Handbook* may be accessed at www.lit.edu or obtained in print upon request at the Student Services Office.

Supplemental Instruction

Supplemental Instruction (SI) consists of group tutoring sessions conducted once a week for 50 minutes for selected subjects. The SI Leader is a peer who helps students learn difficult content in those specific courses. The SI Leader attends the class with the students to keep up with the course content and engage students in interactive learning strategies at the 50 minute sessions. For this course, the supplemental instruction session will be held on "day" at "time" in "bldg/room".

Starfish

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also login to Blackboard or MyLIT and click on the Starfish link to view academic alerts and detailed information. It is the responsibility of the student to pay attention to these emails and information in Starfish and consider taking the recommended actions. Starfish is used to help you be a successful student at LIT.



Contact information

Contact info varies per instructor

Refer to Calendar for important dates and course schedules!