

ARCHITECTURAL DRAFTING I

COURSE OF STUDY

#5874

GRADE: 10-12

PREREQUISITE: Drafting I (with a grade of C or better) or instructor approval.

LENGTH: One Year

CREDIT: Five (5) units per semester (Practical Arts or Elective credit)

TEXT: Architecture.Design.Engineering.Drawing, William Spence, Glencoe Publishing Co., 1991

SYNOPSIS

Architectural Drafting is an instructional program that prepares individuals to support architects and architectural engineers in developing plans for buildings or other structures, using a variety of building materials; to create layouts in keeping with building codes, zoning laws, ordinances, and other regulations; and to respect cost limitations and client preferences in styling and planning.

COURSE PROJECT

Single story residence of under 2000 square feet.

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I. ARCHITECTURAL GENERAL INFORMATION

The student will understand the basic course requirements, the methods of student evaluation, the general objectives, class procedures, and course content.

II. ARCHITECTURAL OVERVIEW

The student will be able to differentiate between the various architectural career fields and their roles in the industry. The student will understand the historical development of architecture, including architectural styles and different drawing types.

III. ARCHITECTURAL DRAWING PROCEDURES

The student will understand architectural drafting terminology and the correct names, care, and use of drafting tools. The student will demonstrate industry-standard line work, layout, and architectural styles of lettering.

IV. ARCHITECTURAL SYMBOLS

The student will demonstrate the proper use of symbols used within a set of architectural plans and gain experience in applying the symbols through exercises designed to develop these competencies.

V. DESIGN CONCEPTS

The student will know how to create a building design, how the orientation of the building on the lot affects the design, how the building codes affect the design, and what costs are associated with building.

The student will understand the various construction methods used in the building industry and will demonstrate this knowledge in the drawing of plans, details, and section views for a set of plans.

VI. AREA PLANNING AND ROOM DESIGN

The student will be able to identify and use symbols and will know the vocabulary associated with this unit. The student will be able to apply design principles to space planning and will be able to compare the minimum accepted standards allowed by the various codes to desirable design criteria. The student will use the proper dimensioning and lettering techniques associated with the living area.

A The student will use the various catalogs, manuals, and code books that are available in the classroom or library and will be able to locate material or information in them.

VII. ARCHITECTURAL FLOOR PLANS

The student will apply critical thinking skills when drawing a floor plan. The student will define the problem and proceed in a logical manner to make judgments that will incorporate knowledge of the building codes, use of accepted drafting practices, application of space planning techniques, an understanding of traffic patterns, and knowledge of construction procedures.

VIII. ARCHITECTURAL FOUNDATION PLANS

The student will be able to construct a foundation plan.

IX. ARCHITECTURAL SITE PLAN

The student will understand the importance of the site plan as part of the complete set of plans and will demonstrate the ability to construct this plan.

X. ARCHITECTURAL ELEVATIONS

The student will demonstrate the ability to construct elevation views of a building.

XI. ARCHITECTURAL ELECTRICAL PLAN AND SYMBOLS

The student will understand the necessity of an electrical plan and will demonstrate the ability to produce this plan.

XII. ARCHITECTURAL PICTORIAL DRAWINGS

The student will be able to construct a pictorial drawing.

XIII. ARCHITECTURAL SCHEDULES

The student will be able to draw a door, window, and room finish schedule by locating product information to complete the schedule. The student will be able to identify the various types of doors, windows, and finish treatments used in a home.

XIV. INTERIOR DETAILS

The student will construct a set of interior of details.

XV. BUILDING DETAILS

The student will construct a set of building details.

XVI. COMPUTER-AIDED-DRAFTING

The student will demonstrate a basic knowledge of computer-aided drafting (CAD) and the ability to use appropriate techniques and procedures for the care and use of hardware and software to produce a series of orthographic and isometric drawings.

- A. The student will understand the importance of developing precise basic entities and will demonstrate the ability to produce accurate drawings, using computer techniques and procedures.
- B. The student will understand the function of editing commands and will demonstrate the ability to use edit commands to produce accurate drawings.
- C. The student will understand the proper use of American National Standards Institute (ANSI) standards and architectural standards and demonstrate the ability to represent dimensions properly.
- D. The student will understand the proper use and development of symbol libraries and will demonstrate the ability to use them in developing a drawing.

- E. The student will understand the development, use, and outcome of an attribute file and demonstrate the ability to provide a bill of materials.
- F. The student will understand the use of X, Y, and Z axes in three-dimensional development and will demonstrate the ability to produce accurate drawings.
- G. The student will understand the proper technique of scaling and plotting to proper size and will be able to demonstrate that ability by plotting industry-quality drawings.
- H. The student will understand the methods and materials used in systems drafting and will use this knowledge to produce final production drawings.

XVII. CAREER EXPLORATION

Standard guidance services will be provided to assist all students in determining their interests, aptitudes, and abilities; in selecting the program that meets their career-vocational education goals; and expanding their individual options.

XVIII. LEADERSHIP

Students will develop the ability to plan together, organize, and carry out worthy activities and projects through the democratic process.

Board approved: January 21, 1993