

8113
180 Clock Hours
ADVANCED TECHNICAL DRAFTING
Course Syllabus

INSTRUCTOR: Beth B. Fontenot

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CLASSROOM: Annex, Room 21

PLANNING PERIOD: MONDAY-FRIDAY: PLEASE SCHEDULE APPOINTMENT

OFFICE PHONE: BCHS 662-5815. Please leave a message and telephone number where you can be reached.

A. DESCRIPTION

This course is a follow-up to the basic technical drafting course. This advanced course focuses on a graphic language used to convey necessary and specific information that expresses and records ideas for those who produce, use, and service products. Emphasis is placed on the use of CADD in the preparation of detailed drawings, including surface development, intersection, graphic charts and graphs, diagrams, threads, mapping, descriptive geometry, auxiliary views and revolutions. Students will explore specialized areas where drafting is an essential skill, including pipe, architectural, aerospace, computer, welding, and structural drafting. Science, mathematics, and communication skills are reinforced in this course. Work-based learning strategies appropriate for this course include field trips and guest lectures. Job shadowing is at the discretion of the student and parent. This course enhances skills essential for students interested in technical and engineering career fields. Students will participate in the NASA HUNCH Project. Prerequisite: Basic Technical Drafting

B. ORGANIZATION

This is a lecture-lab course in which topics are presented by the instructor, practice drawings are explained, and assigned drawings are completed by students both during lab periods and outside of class. Objective and drawing-type quizzes are given, and there is a comprehensive final exam.

C. COURSE OBJECTIVES

Review Basic Technical Drafting: safety, orthographic projection, dimensioning, pictorials, sectionals, working drawings and basic CAD.

1. Recognize how functional drafting techniques can be used to prepare effective technical drawings.
2. Visualize the surface development of three-dimensional objects: parallel line development, radial line development, and triangulation.
3. Describe and complete auxiliary drawings.
4. Read, interpret and construct graphic charts and diagrams. Prepare drawings of threads using detailed representation.
5. Graphically define the fundamentals of solving descriptive geometry problems.
6. Describe the uses of technical illustrations and prepare one form of technical illustration.
7. Complete drawings in the optional areas: map, electrical, architectural, pipe, aerospace, structural, welding.

D. COURSE TOPICS

The course will cover the following topics:

1. Review Basic Drafting
2. Career Skills
3. General Safety
4. Detailed Working Drawings
5. Pattern Development
6. Auxiliary Views and Revolutions

And one of the following areas:

1. Map Drafting
2. Electrical + Electronic Drafting
3. Technical Illustration
4. Architectural Drafting
5. Pipe Drafting
6. Aerospace Drafting
7. Structural + Welding drafting
8. Computer-Aided Drafting & Design

E. TEXT AND REQUIRED SUPPLIES

1. by J.R. Walker Exploring Drafting,
2. Basic Technical Drawing, by Spencer & Dygdon
3. Architecture: Residential Drawing and Design, by Clois E Kicklighter
4. Supplies: Lab Fee: \$20.00 (Binder from Basic Technical Drawing will be used for Advanced Technical Drawing. Student should have sheet protectors from BT.D.)