

Boone High School

Drafting and Illustrative Design Technology

Syllabus

What this class is:

Drafting is sometimes called the Language of Industry. It is a language that uses lines and symbols to communicate technical information. The skills and concepts learned in this class are used in architecture, engineering, construction, manufacturing, and thousands of related occupations. This class teaches you to make the kinds of drawings (often called plans or blueprints) used in these technical careers. Some of this work will be done with pencil and some will be done with a computer. We will also learn about some of the uses for our drawings through model building and manufacturing activities. Successful completion of three years of this class meets one of the requirements for Tech Prep credit and for Gold Seal Scholarship.

What we do in here:

Most of our time will be spent learning the correct ways to letter, sketch, draw, and illustrate engineering and architectural plans and details. We learn by doing, which means that most of our time will be spent sketching, drawing, and illustrating. We will read about drafting tools and procedures, about related careers, and about the materials and processes in engineering and architecture. We will write notes and keep records of our work. We will learn to measure with accuracy and precision. We will make mathematical calculations. We will study the history of technological progress. This class provides a unique opportunity for you to apply what you learn in all your other classes!

What kind of drawings we make:

In Drafting 1 you learn basic drawing procedures and formats through a wide variety of mechanical and architectural drawings including orthographic, pictorial, auxiliary, sectional, and working drawings. We do not expect you to have any prior experience so it's okay if you don't know what any of that means. Drawings take anywhere from one or two days to a few weeks to complete. In Drafting 2 you work on more detailed architectural and mechanical plans including a reverse engineering (as built) drawing for which you will need to bring in an object that you must measure and draw precisely. In Drafting 3 you must be able to research and work independently. Like Drafting 2, the year is typically half architectural drawings and half engineering drawings, but Drafting 3 students have more opportunities to propose projects of their own choosing. (Drawings will be assigned if proposals are not submitted or if they are not approved and credit for the project will be reduced.)

What else you will learn:

The most important thing you can learn is how to work safely and efficiently. Drafting is a relatively safe profession, but there are some sharp tools and we will use some machines for model building. In order to understand the types of drawings we make, you will need to know something about the tools, machines, and processes used in manufacturing and construction. You will learn about the attitudes and skills that employers expect you to have. And we will learn about major technology concepts and how they relate to career possibilities.

What you need:

You need a drafting lead holder, a white vinyl eraser, and a notebook with notebook paper. Please get these right away and bring them with you to class every day. All of these are usually available at office supply stores in addition to art and drafting supply stores. Drafting lead holders are similar to mechanical pencils, but they use thicker lead (2mm) and you have more control over the sharpness of the point. (The name, lead holder, can be a little confusing. This is not a storage case for the leads. It is a tool, like a mechanical pencil, for holding the lead while you draw with it.) We do not recommend wood drafting pencils. They are more expensive in the long run because they have to be replaced more frequently. Regular (#2) pencils are okay for taking notes, but not for drawings. We recommend a 1- or 2-inch 3-ring binder. If you don't want to punch holes in your drawings, you should also have some pocket inserts in your notebook.

What we provide:

We ask all students to make a donation of \$10 for materials and consumables. We have a class set of drafting tools such as drawing triangles, compasses, scales, etc. (Drafting 2 and 3 students should begin buying their own tools. You can ensure the quality and condition of your own tools better and may be able to use them in entry-level jobs.) We provide drawing and sketching paper, tape, replacement leads, printer ink, materials for models, a report cover

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for your portfolio, other consumable supplies, and illustration materials. We have a recently renovated lab with new drafting tables, new computers, new software, and new CAD/CAM/CNC/Robotic applications. We have a class set of textbooks and several copies of other reference books.

What the class rules are:

Orange County Public Schools and Boone High School have very detailed Codes of Conduct and we expect all our students to maintain appropriate behavior at all times. Rather than list all those rules here, we can sum up our expectations as

- Be in class and be on time every day.
- Arrive prepared to participate and work every day.
- Treat each other and all guests with respect.
- Maintain a safe, orderly, clean, and professional environment.

How you will be graded:

We believe it is the responsibility of students to earn a grade. Assignments must be completed according to the instructions given and turned in on time. Scoring rubrics will be provided for large projects and drawings. If you miss any class, you must request make-up work on the day you return from your absence. Any assignments that were due during your absence should be turned in on the day you return. You have one extra day to complete and turn in assignments that were made during your absence. Some work may be accepted within one week after the due date for reduced credit. Work more than one week late is usually marked as a score of zero, but not as NHI (Not Handed In). You must have completed and turned in all regular assignments before any extra credit work will be available or considered.

Your notebook:

In your notebook you need to keep notebook paper, notes, handouts, sketches, all your assignments for the year, and your engineering journal. Your engineering journal is your documentation of the work you do each day. Your engineering journal lists the assignments you work on, describes the specific activities required to complete the assignments, describes problems you encounter and their solutions, and summarizes what you learn from each assignment. Your notebook will be checked at least once each 9 weeks.

Your portfolio:

A portfolio is a collection of examples of your best work. Professionals use portfolios when interviewing for a job or soliciting clients. Your portfolio will demonstrate your level of understanding and expertise. Your portfolio will be based on the requirements for Tech Prep credit with Valencia Community College. Drafting 2 and Drafting 3 students should update their portfolios from Drafting 1. Drafting 3 students must submit their portfolio to VCC as part of the process of getting Tech Prep credit. It is very important to keep all your work for the whole year in your notebook so you have it to create your portfolio during second semester. You will receive more details on the content and format requirements at that time.