

What can you do with a major in Drafting?

Campus(s) program is offered: North Metro Campus

What are the most likely job titles one can expect to qualify for after completing this program?

- Mechanical Drafter
- CAD Operator
- CAD Drafter

What do students express as the thing they enjoy the most about this program?

Almost all students really enjoy 3-D solid modeling. 3-D solid modeling allows students to create a mechanical part that appears to “come to life” right in front of their eyes.

What are some typical misconceptions about this program of study?

When many people think of drafting, they think of a drafter using a drawing board, T-square, and pencils to design residential and commercial buildings. At CTC we teach students proper drafting techniques using 2-D and 3-D CAD software, as related to mechanical parts.

What are some essential skills a student needs to have to be successful in this program?

Complex Problem Solving — Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.

Critical Thinking — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

Mathematics — Using mathematics to solve problems.

Judgment and Decision Making — Considering the relative costs and benefits of potential actions to choose the most appropriate one.

Operations Analysis — Analyzing needs and product requirements to create a design.

What are some essential abilities a student needs to have to be successful in this program?

Mathematical Reasoning — The ability to choose the right mathematical methods or formulas to solve a problem.

Deductive Reasoning — The ability to apply general rules to specific problems to produce answers that make sense.

Visualization — The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.

Information Ordering — The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).

Originality — The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.

What are typical skills and abilities that a student gains once he/she has completed this program?

- Explain and demonstrate the proper use of AutoCAD in the profession by performing all necessary commands to create 2-D and 3-D drawings
- Use the most current CAD programs to prepare mechanical drawings from sketches and projects with

minimal supervision

- Create complete sets of working drawings using critical thinking skills related to problem solving and manipulation of complex technical data related to mechanical designs
- Demonstrate the personal and professional ethics and interpersonal skills that are expected in the workplace

Typical work activities/occupational functions:

- Drafters prepare technical drawings and plans used by production and construction workers to build everything from manufactured products, such as toys, toasters, industrial machinery, or spacecraft, to structures, such as houses, office buildings, or oil and gas pipelines
- Their drawings provide visual guidelines, showing the technical details of the products and structures and specifying dimensions, materials to be used, and procedures and processes to be followed
- Drafters fill in technical details, using drawings, rough sketches, specifications, codes, and calculations previously made by engineers, surveyors, architects, or scientists
- Most drafters use Computer Aided Design and Drafting (CAD) systems to prepare drawings
- With CAD systems, drafters can create and store drawings electronically so that they can be viewed, printed, or programmed directly into automated manufacturing systems
- Although drafters use CAD extensively, they still need knowledge of traditional drafting techniques in order to fully understand and explain concepts

What additional training would you recommend for a student who wants to go to the next level in this field?

There are many certifications provided by the CAD software manufacturers such as the AutoCAD Certified User and AutoCAD Certified Professional. The drafting and engineering fields are closely intertwined. Therefore, students could also go on to pursue a mechanical engineering degree at a university.

Do any of the occupational courses transfer easily?

The occupational courses could be transferrable based on the school you wish to attend. You will need to contact that particular school.

What are some common limitations, if any, in this program that students face?

Drafters usually spend long periods in front of computers doing detailed work; drafters may be susceptible to eyestrain, back discomfort, and hand and wrist problems. Most drafters work a standard 40-hour week; only a small number work part time

Are there any exams/certifications that a student needs to take after completing the courses? Are these exams/certifications offered on campus?

The American Design Drafting Association (ADDA) has established a certification program for drafters. Certification demonstrates that the understanding of nationally recognized practices and knowledge standards have been met. Individuals who wish to become certified must pass the Drafter Certification Test, which is administered periodically at ADDA-authorized test sites. CTC does not offer the certification.

Possible employment settings:

Manufacturing, fabrication companies, research and development departments, engineering firms

Names of potential employers:

Randstad Engineering	Arseal	The Davis Companies
Applied Resource Group	Apollo Staffing	Hydro-Chem

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