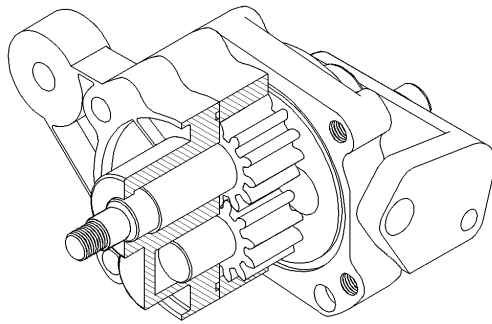


INDUSTRIAL DRAFTING (CAD)



A rewarding career



Rosemount Technology Centre

www.rosemount-technology.qc.ca



Commission scolaire English-Montréal
English Montreal School Board

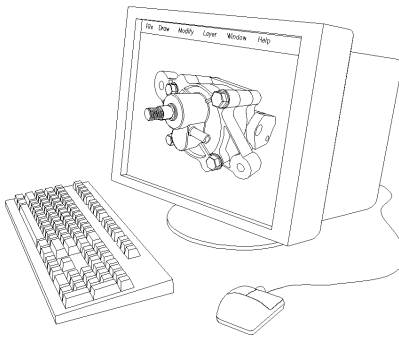
What is Industrial Drafting?

Have you ever looked at a device or machine, and wondered how an idea in a designer's mind becomes a finished product? What are the steps it goes through as it is designed, developed and manufactured?

A fundamental part of the process is creating and modifying drawings of the design. Whether it's a tiny watch part or an entire railway car, precise, detailed drawings are essential. Not only must the product itself be designed and drawn, but also the tools and machines for making it.

An industrial drafter creates and revises technical drawings and related documents, in a wide variety of fields. It could be vehicles, machinery, furniture, aerospace, ships, oil refineries or manufacturing of any kind.

Industrial drafting can be a rewarding career, because it helps to create the things we see or use every day. It can also be financially rewarding for those who are skilled and motivated. The occupation is also known as technical drafting, design drafting or mechanical drafting, as well as CAD operator or CAD technician.



What does the work involve?

Drafting in the 21st century has come a long way from the days of pencils and drawing boards. The work is done almost entirely on a computer, using sophisticated CAD (Computer-Aided Drafting) software. A manager or engineer may help solve difficult problems, but drafters usually work with a minimum of supervision.

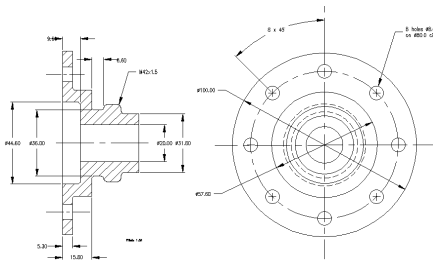
A typical project might start from a rough sketch or existing drawing. The drafter then determines the views, details and other information to fully document the design. Projects can require calculating dimensions or estimating quantities of material. At times, the work could involve technical illustrations for a manual or catalog.

Designs often include standard parts like fasteners and bearings. The drafter will get the necessary data from catalogs and technical references. Suppliers of such items may have libraries of drawings available on the Internet.

Is it the right career for me?

Besides being well organized and having technical knowledge, the most successful drafters will have these skills:

- Ability to visualize spatial relationships in three dimensions. Not only is the real world 3D, but the software works with 3D models.
- Strong mechanical aptitude. The drafter must understand the function of the design to be able to document it.
- Ability to learn complex CAD software. Industry uses a variety of programs, which are constantly being updated.
- Good mathematical capabilities.
- Clear communication in English and French. Ability to exchange information accurately is essential.
- Motivated to learn and improve required skills. A drafter who adapts to a firm's environment will advance well.
- Ability to set realistic goals and deadlines. Drafters must work efficiently, and know when a job will be finished.
- Good aesthetic sense and attention to detail.
- Good interpersonal skills. Drafters must take direction well, and keep good relationships with others at all levels.



What training is necessary?

Before seeking employment, potential drafters must have some mechanical knowledge and basic ability with CAD software. On-the-job training is usually available only for more advanced software and for established employees.

Some CEGEPs and universities offer courses in the more popular CAD programs. This can be useful for those with related experience who want to upgrade their skills. For those without relevant education or work experience, a full program in industrial drafting is the way to go.

Several Quebec schools offer a drafting program in English or French. The duration is 1 - 2 years, and usually ends with a brief stage or work-study. The program covers all aspects of the work, including computer skills, mechanical theory and practice, and a variety of CAD software.

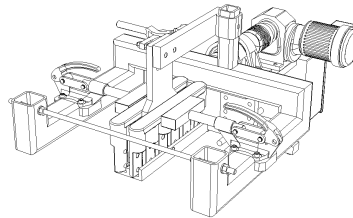
What are the job opportunities?

Employment prospects in the Montreal area are generally very good. There are numerous local manufacturing and process industries, including some of the largest in Canada. Montreal's many research centres are also potential employers. The number of current job offers may depend on economic conditions, but a skilled, motivated individual will be able to find relevant work.

Salary levels start at around \$25,000 per year, and can range to over \$50,000 after several years. With experience and further training, a drafter can advance to become a CAD manager, senior drafter or project manager.

There is a growing trend for firms to hire drafters for temporary assignments, either directly or through an agency. Drafters should keep a current CV and list of references from past work. They might consider specializing in a specific field if there is local demand.

At some point in his or her career, a drafter might become self-employed. Today's wired world makes technical information available anywhere. The result of a drafter's work is not a piece of paper, but a computer file. Projects can be done at home for a client anywhere on the globe. Before starting their own business, however, drafters should have several years of experience.



Where can I find out more?

An Internet search for industrial drafting, mechanical drafting or design drafting will return many useful results. Web sites will include educational institutions, drafting services and descriptions of job offers. A few useful sites are listed below:

Vocational training in Quebec
www.clickvoc.qc.ca

Autodesk, the largest CAD software firm
www.autodesk.com

Page with over 1000 CAD-related links
www.cbel.com/cad/

Source for many CAD firms and web sites
www.tenlinks.com

American Design Drafting Association
www.adda.org

What schools are in Montreal?

There are several institutions in Montreal offering industrial drafting programs in English or French. The Quebec government supports tuition fees at some schools, while others are private and the cost is higher.

The only tuition-free program in English is at the Rosemount Technology Centre. RTC is Montreal's largest English-language vocational training centre.

Industrial Drafting (CAD)

Duration: 15 months (1800 hrs)

Registration Fee: \$230

Certificate of studies: DEP (DVS)

Financial aid is available for eligible students.

Main location:

3737 Beaubien St. East (at 16th Ave.)

Montreal QC H1X 1H2

Phone: 514-376-4725

Fax: 514-376-9736

Campus 2:

10909 Gariepy Ave. (at Pie-IX Blvd.)

Montreal North QC H1H 4C6

Phone: 514-376-4976



www.rosemount-technology.qc.ca