



## Mechanical Drafting and Design Technology Program Description

### Industry Description

The Mechanical Drafting and Design Technology program supplies the necessary knowledge and an excellent background to mechanical drafters who normally start their careers working in the engineering departments of companies that design and manufacture hard goods products of every description. Most mechanical drafters begin as detail drafters making the drawings required for the manufacture of products and can advance to supervisory positions within the department or may advance to assistant engineer as they gain experience. Other areas of advancement include purchasing and sales. Computer-Aided Drafting (CAD) is an important part of the Mechanical Drafting program. CAD training opens up an entirely new area of job advancement, especially in large companies. Our graduates have found employment with manufacturing companies, big and small, engineering firms, electro-mechanical companies, and contract firms.

### Wages/Outlook/Advancement

Wage information is available from the Minnesota Department of Education and the [Minnesota Department of Employment and Economic Development](#)

### Program Description

The Mechanical Drafting and Design Technology program consists of technical courses designed to develop skills in mechanical drafting, design, and related fields. In addition to drafting and detailing skills, the student will receive training in related areas, such as industrial materials, manufacturing methods, machining, and industrial relations. Students will receive hands-on training in Anoka Technical College's computer-aided drafting (AutoCAD and Solidworks) lab. Although no prior knowledge or experience is necessary to succeed in this program, prospective students should have a high school diploma or G.E.D. A background in algebra/trigonometry, drafting, metalworking, or computers can be helpful.

**IMPORTANT ACCUPLACER Test Requirement:** ACCUPLACER testing in math, reading and writing. Any needed developmental courses must be completed before receiving a diploma or an A.A.S. award.

This information is available in alternative formats by calling (763) 576-4700. TTY users can call Minnesota Relay at (800) 627-3529. Anoka Technical College • (763) 576-4700 • 1355 West Highway 10, Anoka, MN 55303 • A member of the Minnesota State Colleges and Universities System • Anoka Technical College is an equal opportunity, affirmative action employer and educator.

### Advancement Opportunities

After completing the Mechanical Drafting program with either a diploma or AAS degree, the student can further his/her education by taking classes through the University of Minnesota/Crookston for a four-year "Bachelor of Manufacturing Management" degree which has almost all of its classes offered at a nearby technical college. Students often take 2 – 3 years to complete the program. Classes are offered in the evenings so as not to conflict with work schedules. A four-year degree is often required to advance to a drafting management position. Other advancement opportunities include: design, illustration, and because of the student's product knowledge, sales. Continuing education after graduation is vitally important.

### **Length of Program**

Associate of Applied Science	69 credits
Diploma	58 credits
Advanced CAD Drafting Certificate	30 credits
Basic CAD Drafting Certificate	20 credits

### **Start Dates**

Fall Semester	August
Spring Semester	January (with instructor approval)
AutoCAD and Solidworks evening classes are available	

### **Program Contact**

Gary Weber  
Phone (763) 576-4856  
E-mail [gweber@anokatech.edu](mailto:gweber@anokatech.edu)

For information on how to apply or to schedule a campus tour please contact the Admissions Office, Phone (763) 576-4700 or by E-mail at [info@anokatech.edu](mailto:info@anokatech.edu)

## **Mechanical CAD Drafting & Design**

### **Associate of Applied Science**

**69 Credits**

### **General Education**

**18 Credits**

Eighteen general education credits of Minnesota Transfer Curriculum are required. You must select classes from three or more goals areas.

Refer to the ATC website for the list of [Minnesota Transfer Curriculum](#)

### **Technical Education**

**51 Credits**

COMP1002	Computer Technologies for Communication	2
MACH1090	Machining Fundamentals	2
MATH1050	Technical Mathematics	5

MATH1060	Applied Math Statics & Strengths for Material	2
MECH1050	Industrial Relations	1
MECH1200	Mechanical CAD I	4
MECH1216	Drafting Standards	5
MECH1222	Materials and Processes	2
MECH1230	Technical Illustration	1
MECH1240	Descriptive Geometry	2
MECH1251	CAD Layout and Design	4
MECH2010	Power Transmission Drafting and Design	3
MECH2031	Process Design Drafting	3
MECH2040	Design Projects	3
MECH2051	Geometric Dimensioning & Tolerancing	2
MECH2074	Solidworks	4
MECH2077	Advanced Solidworks	4
MECH2080	Special Projects	2

**CAD Drafter  
Diploma**

**58 Credits**

**General Education**

**14 Credits**

COMP1002	Computer Technologies for Communication	2
ENGL1105	Composition I	4
MATH1050	Technical Math	5
SPCH1200	Interpersonal Communication	3

**Technical Education**

**44 Credits**

MACH1090	Machining Fundamentals	2
MATH1060	Applied Math for Statics & Strengths for Material	2
MECH1050	Industrial Relations	1
MECH1200	Mechanical CAD I	4
MECH1216	Drafting Standards	5
MECH1222	Materials and Processes	2
MECH1230	Technical Illustration	1
MECH1240	Descriptive Geometry	2
MECH1251	CAD Layout and Design	4
MECH2010	Power Transmission Drafting and Design	3
MECH2031	Process Design Drafting	3
MECH2040	Design Projects	3
MECH2051	Geometric Dimensioning & Tolerancing	2
MECH2074	Solidworks	4
MECH2077	Advanced Solidworks	4
MECH2080	Special Projects	2

**Advanced CAD Drafting  
Certificate**

**30 Credits**

**General Education**

**2 Credits**

COMP1002 Computer Technologies for Communications

2

**Technical Education**

**28 Credits**

MECH1200 Mechanical CAD I

4

MECH1216 Drafting Standards

5

MECH1240 Descriptive Geometry

2

MECH1251 CAD Layout and Design

4

MECH2031 Process Design Drafting

3

MECH2051 Geometric Dimensioning & Tolerancing

2

MECH2074 Solidworks

4

MECH2077 Advanced Solidworks

4

**Possible Electives**

MACH1090 Machining Fundamentals

2

MECH1222 Materials and Processes

2

**Basic CAD Drafting  
Certificate**

**20 Credits**

**General Education**

**2 Credits**

COMP1002 Computer Technologies for Communication

2

**Technical Education**

**18 Credits**

MECH1200 Mechanical CAD I

4

MECH1216 Drafting Standards

5

MECH1240 Descriptive Geometry

2

MECH1251 CAD Layout and Design

4

MECH2040 Design Projects

3

**Possible Electives**

MACH1090 Machining Fundamentals

2

MECH1222 Materials and Processes

2

MECH2051 Geometric Dimensioning & Tolerancing

2