



Wayne  
County  
Community  
College  
District

# Computer Aided Design

## PAY

The median annual wage for drafters was \$56,830 in May 2019.

## JOB OUTLOOK

Employment of drafters is projected to grow 0 percent from 2018 to 2028. Although drafters will continue to work on technical drawings and documents related to the design of buildings, machines, and tools, new software programs are changing the nature of drafting work and how it is done. Those with formal training in this technology should have the best job opportunities.

*Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, April 2020, Drafters, on the Internet at <http://www.bls.gov/ooh/architecture-and-engineering/drafters.htm>*

## ABOUT THE PROGRAM

The Computer Aided Design program provides students with career-based training in mechanical design using computer-aided drafting/design technology.



To provide the necessary technical education base, the program also includes education and training in applied technical mathematics, engineering, drawing, and geometric dimensioning and tolerance skills. Basic training in computer technology is included to prepare students for the two-dimensional, three-dimensional and solid modeling computer-aided design technology in the program. All technical manufacturing and engineering design in today's high-technology business and industry uses computer-based, computer-aided design technologies that integrate the design, engineering and manufacturing design analysis, and manufacturing of complex products and product parts, subassemblies, and assemblies into a single, technically coherent process.

The Computer Aided Design program provides the skills and knowledge required for entry-level employment in industrial drafting, computer-aided drafting, and mechanical design fields. Emphasis is placed on the applications, procedures and techniques of principles involved in industrial drafting and design techniques. Areas include layouts and detailing in product design, tool design, die design, machine design, and advanced computer-aided design. Laboratory work is an integral part of the program for all technical courses.

## WHAT DO COMPUTER AIDED DESIGN PROFESSIONALS DO?

Drafters use software to convert the designs of engineers and architects into technical drawings and plans. Workers in production and construction use these plans to build everything from microchips to skyscrapers.

## WHERE DO THEY WORK?

Like other workers who primarily use computers to do their work, drafters usually work indoors and full-time.



## Recommended Sequence of Courses

### Industrial Computer Aided Design: College Certificate

CR. No.	COURSE TITLE	CREDITS
<b><u>SEMESTER 1</u></b>		
DRT 101	Blueprint Reading . . . . .	.3
CAD 101	Fundamentals of Computer Aided Design . . . . .	.4
	---OR---	
CAD 110	Introduction to NX CAD/CAM . . . . .	.4
MAT 121	Technical Mathematics I . . . . .	.3
MAN 101	Manufacturing Process I . . . . .	.3
<b>SEMESTER TOTAL . . . . .</b>		<b>.13</b>

### **SEMESTER 2**

DRT 102	Fundamentals of Mechanical Drawing . . . . .	.4
CAD 102	Advanced Computer Aided Design . . . . .	.4
	---OR---	
CAD 222	NX Solids Modeling . . . . .	.4
ENG 119	English I . . . . .	.3
<b>SEMESTER TOTAL . . . . .</b>		<b>.11</b>

### **SEMESTER 3**

DRT 112	Technical Drawing Applications . . . . .	.3
DRT 113	Descriptive Geometry . . . . .	.3
<b>SEMESTER TOTAL . . . . .</b>		<b>.6</b>
<b>CERTIFICATE TOTAL . . . . .</b>		<b>.30</b>

*Note: Certificate total hours may not include prerequisites.*

### Industrial Computer Aided Design: Associate of Applied Science (A.A.S.)

CR. No.	COURSE TITLE	CREDITS
<b><u>SEMESTER 1</u></b>		
DRT 101	Blueprint Reading . . . . .	.3
CAD 101	Fundamentals of Computer Aided Design . . . . .	.4
	---OR---	
CAD 110	Introduction to Unigraphics CAD/CAM . . . . .	.4
MAT 121	Technical Mathematics I . . . . .	.3
Elective: Other . . . . .		.4
MAN 101	Manufacturing Process I . . . . .	.3
<b>SEMESTER TOTAL . . . . .</b>		<b>.17</b>

### **SEMESTER 2**

DRT 102	Fundamentals of Mechanical Drawing . . . . .	.4
Elective: Other . . . . .		.3
CAD 102	Advanced Computer Aided Design . . . . .	.4
	---OR---	
CAD 222	Unigraphics Solids Modeling . . . . .	.4
ENG 119	English I . . . . .	.3
<b>SEMESTER TOTAL . . . . .</b>		<b>.14</b>

### **SEMESTER 3**

DRT 112	Technical Drawing Applications . . . . .	.3
DRT 113	Descriptive Geometry . . . . .	.3
CAD 121	Tool and Fixture Detailing . . . . .	.4
CAD 203	CAD Applications . . . . .	.4
	---OR---	
CAD 224	Unigraphics Assembly/ Components/Drafting . . . . .	.4
MAT 122	Technical Mathematics II . . . . .	.3
<b>SEMESTER TOTAL . . . . .</b>		<b>.17</b>

### **SEMESTER 4**

CAD 211	Die Design and Panel Tipping . . . . .	.4
DRT 115	Geometric Dimensioning Tolerancing . . . . .	.2
ENG 134	Technical Communications . . . . .	.3
PS 101	American Government . . . . .	.3
Elective: Humanities . . . . .		.3
<b>SEMESTER TOTAL . . . . .</b>		<b>.15</b>
<b>A.A.S. PROGRAM TOTAL . . . . .</b>		<b>.63</b>

*Note: Program total hours may not include prerequisites.*

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