

# Drafting Technology–CAD Programs

[drafting.chemeketa.edu](http://drafting.chemeketa.edu)

Drafting Technology offers training for entry into careers in Computer-Assisted Drafting (CAD). The CAD program focuses primarily on drafting skills required for the fields of architecture and construction, with a minor focus on mechanical drafting. Students will learn a variety of the latest 2D and 3D software as they draw buildings, bridges, roadways and mechanical parts. Many design projects are carried across several courses to help students put together basic concepts into integrated, complex design solutions required in real-world projects.

Students may choose to enroll in individual courses, or work toward a Certificate or an Associate of Applied Science degree.

You may be interested in our Cooperative Work Experience program which allows you to earn college credit for work you do relating to your program. In your third term or later, with the approval of the program chair you may enroll in DRF280B-L Cooperative Work Experience and earn college credit hours. Opportunities are subject to availability. For more information, look under Cooperative Work Experience in the catalog index.

After graduation, with specific course substitutions, some credits will transfer to a four-year engineering or engineering technology program.

Total required credit may vary due to three to four credit conversion. Chemeketa degree and certificate minimum requirements must be met.

## Program outcomes

### Students completing the CAD Certificate will:

- Produce accurate 2D and 3D drawings using CAD software.

### Students completing the Architectural Drafting Certificate will:

- Produce accurate 2D and 3D drawings using CAD software.
- Produce sets of architectural drawings suitable for planning division approval.
- Produce sets of structural drawings to industry standards.

### Students completing the Computer-Assisted Drafting (CAD) AAS will:

- Produce accurate 2D and 3D drawings using CAD software.
- Use effective communication skills as a team member to research data and generate drawings.
- Produce sets of architectural drawings suitable for planning division approval.
- Produce sets of structural drawings to industry standards.
- Produce sets of civil drawings including streets, lots, and utilities for a subdivision suitable for planning division approval.

- Draft sets of mechanical drawings including detail and assembly drawings of related parts.

## Getting started

The first step to entering this program is to take part in an assessment process, which includes taking the college's free placement test. The second step is to discuss your scores with the Counseling and Career Services staff. Next, see a Drafting Technology program advisor. If your scores show you need pre-program classes, your advisor will help you determine if you need one or more of the following:

CA121A	Keyboarding A (if less than 25 wpm) .....	1
CIS101	Introduction to Microcomputer Applications .....	3
MTH070	Elementary Algebra .....	4
RD090	College Textbook Reading.....	3
WR080	Basic Writing.....	4

**Note:** In many cases students can enroll in program courses without completing all of the above prerequisite courses.

If you have questions about the requirements, contact Drafting Technology program staff at 503.399.5069. Failure to be assessed may delay your entry into program classes.

## Computer-Assisted Drafting (CAD)

### Computer-Assisted Drafting (CAD)

#### Certificate of Completion

The CAD Certificate program is for students seeking a basic working knowledge of CAD systems. Full-time students can complete the program in three terms, although full-time enrollment is not required. Many required courses are available online to provide maximum flexibility to non-traditional and working students. This certificate provides initial training for entry-level CAD operator positions.

Completion of the CAD Certificate includes a competency-based AutoCAD Assessment Exam. All credits apply toward the Associate of Applied Science degree in CAD Drafting Technology.

*In addition to tuition, estimated costs for students who complete the entire program listed below are books, \$700; class fees, \$250; universal fee, \$396; certification exam, \$50. Contact the Financial Aid Office at 503.399.5018 to find out if you qualify for help with these costs.*

You may earn a Certificate of Completion by successfully completing the required 44 credit hours with a grade of "C" or better in all courses:



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Course	Title	Credit Hours
<b>Term 1</b>		
DRF112	Sketching .....	1
DRF114	Drafting Orientation .....	2
DRF130	CAD 1 .....	3
MTH070	Elementary Algebra+ (or higher) .....	4
PSY104	Psychology in the Workplace+ .....	4
<b>Term 2</b>		
COM051	Communication Skills 1+ .....	3
	or	
WR121	English Composition-Exposition+ .....	4
DRF110	Applied Engineering Computations .....	2
DRF131	CAD 2 .....	3
DRF150	Architectural Drafting 1 .....	3
DRF220	GIS 1 .....	2
<b>Term 3</b>		
DRF095C	Special Projects in Drafting and Design .....	3
DRF132	CAD 3 .....	3
DRF140	3D Modeling with Inventor .....	3
DRF170	AutoCAD Certification Preparation .....	2
DRF240	Architectural Drafting 2 .....	3
	Drafting elective* .....	3

+Meets related instruction requirement, see page 43. For subject areas, see page 55.

\*Drafting elective: Select a course with a CVL, DRF, EGR or CAM prefix.

## Computer-Assisted Drafting (CAD)

### Architectural Drafting Certificate of Completion

The Architectural Drafting certificate prepares students to work as a drafter or entry-level designer in the areas of home design, architecture, engineering, and construction. All credits earned in this program may be applied toward the Computer-Assisted Drafting (CAD) AAS degree. **Note:** Students must have completed DRF130 and DRF131 prior to beginning this certificate.

*In addition to tuition, estimated costs for students who complete the entire program listed below are books, \$800; class fees, \$350; universal fee, \$423; equipment and supplies, \$200. Contact the Financial Aid Office at 503.399.5018 to find out if you qualify for help with these costs.*

You may earn a Certificate of Completion by successfully completing the required 47 credit hours with a grade of "C" or better in all courses:

Course	Title	Credit Hours
<b>Term 1</b>		
CVL143	Introduction to Civil Survey .....	3
DRF112	Sketching .....	1
DRF150	Architectural Drafting 1 .....	3
DRF271	Commercial Drafting with Revit 1 .....	4
MTH081	Technical Mathematics 1 + .....	4
	or	
MTH111	College Algebra (or higher) .....	5

<b>Term 2</b>		
COM051	Communication Skills 1 + .....	3
	or	
WR121	English Composition-Exposition (or higher) .....	4
DRF110	Applied Engineering Computations .....	2
DRF240	Architectural Drafting 2 .....	3
DRF272	Commercial Drafting with Revit 2 .....	4
PSY104	Psychology in the Workplace + .....	4

<b>Term 3</b>		
DRF132	CAD 3 .....	3
DRF160	Spreadsheet and Database Applications .....	3
DRF241	Structural Drafting .....	3
DRF243	Architectural Design .....	3
DRF273	Commercial Drafting with Revit 3 .....	4

+Meets related instruction requirement, see page 43. For subject areas, see page 55.

## Computer-Assisted Drafting (CAD)

### Associate of Applied Science

Students graduating from the CAD program may become technicians in civil, mechanical, structural, or architectural drafting. Additional career opportunities include Geographic Information Systems (GIS), mapping, and technical illustration. Training encompasses computer-aided drafting in all of the fields listed; application of software and mathematical concepts to solve real-world problems; and broader skills in communication, teamwork and human relations.

*In addition to tuition, estimated costs for students who complete the entire program listed below are books, \$1,500; class fees, \$450; universal fee, \$900; equipment and supplies, \$300. Contact the Financial Aid Office at 503.399.5018 to find out if you qualify for help with these costs.*

You may earn an Associate of Applied Science degree by successfully completing the required 100 credit hours with a grade of "C" or better in all courses:

Course	Title	Credit Hours
<b>Term 1</b>		
CVL143	Introduction to Civil Survey .....	3
DRF110	Applied Engineering Computations .....	2
DRF112	Sketching .....	1
DRF114	Drafting Orientation .....	2
DRF130	CAD 1 .....	3
MTH081	Technical Mathematics 1+ .....	4
	or	
MTH111	College Algebra+ (or higher) .....	5
<b>Term 2</b>		
COM051	Communication Skills 1+ .....	3
	or	
WR121	English Composition-Exposition+ (or higher) .....	4
CVL144	Intermediate Civil Survey .....	3
DRF131	CAD 2 .....	3
DRF220	GIS 1 .....	2
MTH082	Technical Mathematics 2 .....	4
	or	
MTH112	Trigonometry (or higher) .....	5

<b>Term 3</b>	
DRF132	CAD 3..... 3
DRF140	3D Modeling with Inventor..... 3
DRF150	Architectural Drafting 1 ..... 3
DRF160	Spreadsheet and Database Applications ..... 3
DRF221	GIS 2..... 3
DRF241	Structural Drafting..... 3
<b>Term 4</b>	
DRF155	Mapping and Platting ..... 3
DRF210	Parametric Design with SolidWorks ..... 3
DRF230	Introduction to MicroStation PC..... 3
DRF271	Commercial Drafting with Revit 1 ..... 4
PH121	Applied Physics ..... 4
<b>Term 5</b>	
CVL232	Applied Statics and Strengths ..... 4
DRF231	Advanced MicroStation ..... 3
DRF240	Architectural Drafting 2 ..... 3
DRF245	Civil Drafting and Design ..... 4
DRF272	Commerical Drafting with Revit 2..... 4
<b>Term 6</b>	
DRF165	CAD System Administration..... 3
DRF243	Architectural Design ..... 3
DRF246	Project Development..... 3
DRF273	Commercial Drafting with Revit 3..... 4
PSY104	Psychology in the Workplace+ ..... 4