

COMPUTER AIDED DESIGN AND DRAFTING, CERTIFICATE OF ACHIEVEMENT

Banner Code: 2_CM_DRAF
Control Number: 21349
Not Financial Aid Eligible

This program prepares students for an entry-level job in engineering and architectural drafting disciplines. Courses incorporate analyzation of industry standard manufacturing prints and realistic 3D modeling. Students will apply 2D and 3D CAD software to design projects, 3D-printed prototypes and create a professional portfolio. Opportunities for employment are available in many related industrial disciplines.

Program Level Learning Outcomes

Upon completion of this program, students will be able to:

1. Operate 2D CAD computer software and apply the principles of drafting to create industry standard manufacturing prints.
2. Identify dimensioning standards and apply Geometric Dimensioning and Tolerancing.
3. Design solid models, assemblies, and detail drawings using a feature-based parametric design CAD program.
4. Assess cost-efficient use of 3D printing technology.
5. Apply mathematics, measuring conventions, scale and mass property analysis.

Potential careers students may enter upon completion are as follows:

- Mechanical drafting
- Civil drafting
- Electrical drafting
- Industrial drafting
- Architectural drafting
- 3D printing

Review Graduation Requirements (<https://catalog.cccd.edu/golden-west/graduation-requirements/certificates/#achievementtext>).

It is suggested that courses be taken in the order they are listed in order to achieve maximum advantage of course content and success in program.

Course	Title	Units
Required Courses		
DRAF G101	Basic Computer Aided Design Drafting	3
DRAF G105	Basic Engineering Drafting I, Computer Aided Drafting	3
DRAF G110	Basic Engineering Drafting II, Computer Aided Drafting	3
DRAF G170	Advanced 3D Mechanical Design	3
Total Units		12

Recommended Program Sequence

These sequences are general maps for students to finish all requirements for the Certificate. There may be advisories or time requirements that students may want to consider before following these maps. **Students are advised to meet with a GWC Counselor for alternate sequencing.**

Year 1:

Course	Title	Units
Semester 1		
DRAF G101	Basic Computer Aided Design Drafting	3
DRAF G105	Basic Engineering Drafting I, Computer Aided Drafting	3
<i>Units</i>		6

Course	Title	Units
Semester 2		
DRAF G110	Basic Engineering Drafting II, Computer Aided Drafting	3
<i>Units</i>		3

Year 2:

Course	Title	Units
Semester 3		
DRAF G170	Advanced 3D Mechanical Design	3
<i>Units</i>		3