

## Career Technical Education Computer-Aided Design Programs



In the innovative, cutting-edge, world of design, everything from toys and gaming consoles, tablets and smartphones, homes and skyscrapers to satellites and wind turbines must first be visualized and designed using Computer-Aided Design (CAD) software.

By using CAD, architects, engineers, manufacturers and drafters can imagine, invent, and revise the 3D designs and detailed drawings that they use to give physical form to their ideas. This field often appeals to individuals with previous construction or manufacturing experience who prefer designing projects over physically building them.

The class is structured around hands-on exercises and projects with step-by-step tutorials, with the

instructors providing individual assistance. Along with the ability to collaborate and swap ideas with fellow students in an interactive work-like team atmosphere, students benefit from faster, more comprehensive learning.

The class also provides a platform for experienced students to prepare for internationally recognized certification exams with practice questions and exams based on the software manufacturer's testing objectives.

**"Opportunities are usually disguised as hard work, so most people don't recognize them."**

Ann Landers

CBEDS Code 5705 Computer-Aided Drafting Design

## 3D Modeling and Design Drafter



**36 weeks (1260 hours)**

### ELEMENTS:

- Manual Drafting Fundamentals
- Manual Drafting Projections and Views
- Manual Drafting Applications
- Computer and Internet Fundamentals
- Word Processing Fundamentals
- Computer Spreadsheets/Graphics Fundamentals
- CAD 2D Fundamentals 1 and 2
- CAD 2D Applications 1 and 2
- CAD 2D Industrial Applications 1 and 2
- CAD 3D Fundamentals
- CAD 3D Industrial Applications
- CAD 3D Solids Modeling
- AutoCAD Certified User (ACU) Exam
- SolidWorks Fundamentals
- SolidWorks 3D Solids Modeling
- SolidWorks Assemblies
- SolidWorks Production Drawings
- SolidWorks Sheet Metal Design
- SolidWorks Industrial Applications
- Rapid Prototyping
- Portfolio Development
- Certified SolidWorks Associates (CSWA) Exam

### EMPLOYMENT OPPORTUNITIES:

CAD Drafter  
3D Designer  
3D Design Drafter/Technician  
3D Machine Designer  
3D Product / Modeling Designer  
Mechanical Designer/Drafter  
Senior CAD Designer  
Technical Designer  
CAD Modeler

### COURSE INFORMATION:

This comprehensive course builds on the Computer-Aided Design Drafter program and adds 3D solid-modeling using the industry-leading parametric CAD software program, SolidWorks. Students with little or no previous CAD or computer experience can gain the tools and training they need to stand out from the crowd and enter today's competitive job market.

This course prepares students to take both the AutoCAD Certified User (ACU) exam and the Certified SolidWorks Associates (CSWA) exam. These international industry certifications are benchmarks that students use to demonstrate their expertise in 3D solid modeling and design concepts and their mastery of the latest cutting-edge design software.

*I wanted to take a moment to express my gratitude for the invaluable education I received at VACE. The hands-on training I received not only gave me confidence but also equipped me with the skills needed to excel. Thanks to the dedicated instructors and comprehensive curriculum, I was able to secure stable and rewarding employment soon after graduation. The knowledge I gained has opened doors to many opportunities, and I couldn't be more grateful for the solid foundation VACE provided.*

*Salbador Q.  
3D Modeling and Design Drafter Student, 2024*



For a complete list of program fees, see page 34

CBEDS Code 5705 Computer-Aided Drafting Design

## Computer-Aided Design Drafter



**30 weeks (1050 hours)**

### ELEMENTS:

- Manual Drafting Fundamentals
- Manual Drafting Projections and Views
- Manual Drafting Applications
- Computer and Internet Fundamentals
- Word Processing Fundamentals
- Computer Spreadsheet/Graphic Fundamentals
- CAD 2D Fundamentals 1 and 2
- CAD 2D Applications 1 and 2
- CAD 2D Industrial Applications 1 and 2
- CAD 3D Fundamentals
- CAD 3D Industrial Applications
- CAD 3D Solids Modeling
- AutoCAD Certified User (ACU) Exam
- Rapid Prototyping
- Portfolio Development

### OPTIONAL COURSE ENHANCEMENTS:

SolidWorks®, Revit®, Inventor® and AutoCAD Civil 3D®

### EMPLOYMENT OPPORTUNITIES:

CAD Drafter  
CAD Operator  
CAD Designer  
CAD Technician

### COURSE INFORMATION:

Designed for students with little or no previous CAD or computer experience, the Computer-Aided Design Drafter course prepares students for entry-level employment as CAD Drafters and Technicians. The course covers 2D geometric construction and advanced 3D solid modeling using AutoCAD. AutoCAD is used across a wide range of industries and is the gateway software that other specialized CAD programs use for advanced manufacturing, architectural design, animation and game design.

The course also includes manual drafting, a critical part of the design process needed to clearly understand and communicate design ideas.

Graduating students may study for the Autodesk Certified User (ACU) exam for AutoCAD.



*The greatest education of my life I received at VACE. VACE for me was a second chance, my teachers Scott and Josh wanted me to succeed. In the AutoCAD classroom my instruction felt personal, the work was satisfying. Graduating proved to me that anything is possible, and that I will achieve my potential. I will get a career that is fulfilling and grants me financial stability.*

*David M.  
Computer-Aided Design Student, 2024*

For a complete list of program fees, see page 34.