CERTIFICATE OF ACHIEVEMENT

CIP Code 15.1301

Computer Aided Mechanical Drafting and Design

CME.CA

CODE	COURSE	CREDITS
First Year/First Semester		
CAD-101	Computer Aided Engineering Graphics	4
CIM-101	Machine Shop Practices	3
EGR-103	Technical Drawing	3
		10

CODE	COURSE	CREDITS
First Year/Second Semester		
CAD-102	Advanced Computer Aided Engineering Graphics	3
CAD-107	Parametric Design: AutoDesk Inventor	3
CAD-206	Solids Modeling: Solid Works	3
		9
	Total Minimum Credits	**19**

PROGRAM DESCRIPTION

Computer Aided Mechanical Drafting and Design involves the 2D and 3D drafting and modeling of mechanical systems and components in accordance with national and international drafting standards. Students will explore 3D solid modeling, mechanism animation, finite element analysis, and the creation of 2D and 3D schematics of machinery, equipment, and industrial systems. Software packages include Autodesk's AutoCAD, SolidWorks, and Autodesk Inventor. Students could also gain experience with our 3D printers and our CNC machines. Additionally, the CME.CA certificate is a career ladder program and all the program credits can be applied toward completion of the CAD.AAS degree.

PROGRAM GOALS

- To provide aspiring mechanical CAD designers with a solid foundation in mechanical design fundamentals.
- To prepare the program completer to be a CAD operator/designer in a mechanical manufacturing or design enterprise.
- To provide incumbent mechanical CAD draftspersons with sufficient knowledge to qualify for career advancement.

PROGRAM STUDENT LEARNING OUTCOMES

At the end of the program, the graduate will be able to:

1. The graduate will be able to utilize fundamental and advanced two-dimensional and three-dimensional CAD to produce architectural drawings and renderings.
2. The graduate will have generated a personal portfolio of industry standard documents utilizing a variety of computer drafting applications.
3. The graduate will also be proficient in manual, hand drafting practices and techniques.
4. The graduate will be skilled to create parametrically driven 3D computer models of mechanical components and assemblies using a solid modelling program such as SolidWorks and utilize such programs to conduct Finite Element Analyses of mechanical components.
5. The graduate will be able to explain additive and subtractive manufacturing processes.
6. The graduate will be equipped to develop mechanical detail and assembly drawings per ANSI and ASME standards that satisfy the requirements of various manufacturing industries.
7. The graduate will become skilled in blueprint reading, problem-solving and drafting effort reduction techniques, and methods for customizing drafting.

EMPLOYMENT OPPORTUNITIES

- Mechanical draftperson
- 3D Printer Technician
- Additive Manufacturing Technician
- Junior Mechanical Designer
- Mechanical Engineering Apprentice/Assistant

CONTACT PERSON

Dr. Melvin L. Roberts, Coordinator
(856) 227-7200, ext. 4942
email: mroberts@camdencc.edu

THIS PROGRAM IS NOT APPROVED FOR FINANCIAL AID