



Program Description:

The CAD Technology Associate in Science degree program provides a solid foundation in mechanical drafting, printed circuit design and use of microprocessors. The CAD labs at Middlesex are equipped with powerful Pentium computers that complement the popular AutoCAD, Inventor and SolidWorks software for mechanical courses, Architectural Desktop and Revit for architectural courses, and PADS-PCB for printed circuit board design courses. Students create drawings in 2-D and 3-D, generate solid models and explore animation techniques, all skills sought in the fast-growing, high-salaried field of computer aided design. Drafting techniques and microcomputer systems, database, spreadsheet and word processing are interrelated. As a result, students gain versatility in various areas of CAD, in addition to technical proficiency.

Career and Transfer Outlook:

Graduates of the program are qualified to pursue jobs in several CAD career fields, especially mechanical and printed circuit board design.

Graduates work in various industries with departments in mechanical design, printed circuit design, manufacturing or architectural design. Some of the positions that MCC graduates have held are mechanical designer, mechanical engineering technician, and printed circuit designer. Many graduates of the CAD associate degree program have continued their studies toward a bachelor's degree in engineering or engineering technology.

Program Outcomes:

Graduates of the CAD Technology program will be able to:

- Demonstrate proficiency in advanced CAD skills by creating complex drawings using wire-frame and solid modeling techniques, manipulating analytic and non-analytic surfaces, analyzing drawing data, and developing customizing techniques;
- Demonstrate proficiency in applying selected software packages used in the electronics-related industries for drawing schematics and designing multilayered printed circuit boards;
- Apply related academic skills (from mathematics, e.g.) to resolve drafting and design problems;
- Extrapolate information, data and specifications from technical resources and standards for application on drawings, projects and reports;
- Collaborate and cooperate in a team setting to enhance cognitive and social learning by sharing in a CAD engineering environment;
- Apply knowledge of CAD technology and engineering design to solve design problems.

COMPUTER AIDED DESIGN (CAD) TECHNOLOGY • Associate in Science

BEDFORD CAMPUS - DAY, STARTS FALL SEMESTER ONLY

✓	COURSE #	COURSE TITLE	CREDITS	PREREQUISITES
_____	CAD 101	Mechanical Drafting I and Lab	3	Corequisites: CAD 115, CAD 129
_____	CAD 115	Introduction to Computer Aided Design	3	Corequisites: CAD101, CAD 129
_____	CAD 129	Printed Circuit Design	3	Corequisites: CAD101, CAD 115
_____	CAD 151	Mechanical Drafting II and Lab	3	CAD 101, CAD 115, articulation student or permission of instructor
_____	CAD 169	3-D Computer Aided Drafting and Design	3	CAD 101 or CAD 133, CAD 115, CAD 151 or equivalent
_____	CAD 205	Geometric Dimensioning and Tolerancing	3	CAD 151
_____	CAD 207	Electromechanical Layout/CAD	3	CAD 151, and CAD 129 or CAD 143
_____	CAD 225	Mechanical Drafting III/CAD Applications	3	CAD 151 and CAD 169
_____	CAD 227	Advanced CAD Applications	3	CAD 115, and CAD 168 or CAD 169
_____	CAD 228	Practicum in CAD Technology	4	CAD 225 and CAD 227
_____	CAD 230	Architectural Drawing with CAD	3	CAD 101, CAD 115 or permission of instructor
_____	CAP 101	Microcomputer Applications	3	ENG 060 or higher placement and either taking, having successfully completed or tested out of ENG 071 and MAT 070
_____	ENG 101	English Composition I	3	C- in ENG 071 or eligible for ENG 101 and placement above or successful completion of ENG 060
_____	ENG 102	English Composition II: An Introduction to Literature	3	ENG 101
_____	_____	Behavioral Science Elective	3	
_____	_____	Humanities Elective	3	
_____	_____	Mathematics** Elective	3	
_____	_____	Science Elective	3-4	
_____	_____	Social Science Elective	3	
_____	CAD/CSC/NST/BUS			
_____	MAT**/ITC	Elective	3	
			61-62	

*Permission of instructor
**Must be above MAT 070

Helpful Hints:

First-year students should plan on taking Mechanical Drafting (CAD 101), Introduction to Computer Aided Design (CAD 115) and Printed Circuit Board Design (CAD 129) in the first semester. Students are strongly encouraged to meet with their academic advisor to plan their course of study.

Note: Additional coursework may be required based on college placement testing. Students are urged to meet with their academic advisor for proper course sequencing.