



Mechanical Design and Quality Assurance

Associate in Applied Science Degree

120 Credits

Mechanical Designers and Inspection Technicians in industry require a very broad technological background. Students develop proficiency in board drawing and computer-aided drafting. Students prepare drawings for manufacturing and fabrication. The American National Standards Institute (ANSI) and the American Society of Mechanical Engineers (ASME) drafting and design standards will be taught and reinforced as students prepare drawings in both 2-D and 3-D using AutoCAD, KeyCreator, and Mastercam applications software. These skills will be combined with knowledge of Quality Assurance and Inspection. Throughout this course of study, students use sketches, notes, technical literature, and personal research to complete assignments. Added to this will be knowledge of various measuring tools and techniques to verify requirements set out in the drawings created. Students complete related credits in the areas of manufacturing and engineering.

For additional information, see the course description listed under Design Technology.

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Dept./No.	Course Title	Credits
AAM 105	Quality Assurance 1	7
AAM 106	Quality Assurance 2	7
AAM 107 and	Inspection 1 and	(7)
D T 104 or	Machine Drafting or	(3)
AAM 112 and	Inspection Measuring Basics and	(3)
D T 101	Technical Drafting	(7)
AAM 108 or	Inspection 2 or	(7)
AAM 114 and	Computerized Measuring for Inspection and	(3)
D T 115	Geometric Dimensioning and Tolerancing	(4)
# CMST 100 or	Fundamentals of Oral Communication or	
CMST& 210 or	Interpersonal Communication or	
CMST &220	Public Speaking	5
D T 100 or	CAD Fundamentals or	(7)
D T 110	Introduction to AutoCAD	(4)
D T 102	Descriptive Geometry	7
D T 105 or	Design Drafting Careers or	
Tech 100	Careers for the New Millennium	2
D T 113	SolidWorks	5
# D T 131	Drafting Across the Industries	7
D T 135	3D CAD Modeling	5
D T 231	Mechanical Design (CADD)	5
D T 232	Drafting and Design Projects	7
D T 237	Mastercam 3D CAD/CAM	4

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# ENGL 109 or ENGL 128	Writing for Trades and Professional/Technical Degrees or Research Writing: Science/Engineering/Business	5
I E 189 or I E 204	Basic Metallurgy or Statics and Strengths	(4) 4-5

Five credits from the following MATH courses (5 credits)

MATH& 141	PreCalculus I	5
MATH& 142	PreCalculus II	5
MATH& 151	Calculus I	5
MATH& 152	Calculus II	5

Electives: Select 20-24 credits from the following to total 120 credits.

COOP 171	Work Experience Seminar	(1)
D T 175	Drafting Work Experience	(4-6)
D T 177-179	Drafting Work Experience 1-3	(3 ea)
D T 180-182	Leadership Skills 1-3	(1 ea)
D T 199 or 299	Independent Study-Drafting 1 or 2	(1-5 ea)
D T 200	Drafting and Design Capstone	(3)
D T 210	Advanced AutoCAD Development 1	(4)
ENGR 106	Introduction to Engineering Problems	(3)
INDUS 111	Welding Survey 1	(3)
MFG	Any MFG class	(10)

Satisfies related instruction requirements.