Computer-Aided Manufacturing

Associate of Applied Science Degree

Program code: AAS.COMPAIDEMFG

This program combines training in computer-aided drafting (CAD) and computer-aided manufacturing (CAM). Course work emphasizes machine tool fundamentals, computer numerical control (CNC) and computer-aided manufacturing.

PROGRAM OUTCOMES

Upon successful completion of this program, students should be able to:

• set-up and operate manual machine tools to produce machined products to required specifications by applying appropriate skills, processes, and technologies;

• set-up and operate CNC machine tools to produce machined products to required specifications by applying appropriate skills, processes, and technologies.

• apply computer software applications to produce manufacturing related documents , create CAD models, and generate CAM programs for machining processes;

• apply knowledge of programming electronic systems to improve industrial efficiency;

• apply knowledge of materials, physics and mathematics to effectively machine industrial materials;

• apply critical thinking skills to solve common machining and manufacturing problems;

• work safely in an industrial environment around machinery, power tools, electricity and chemicals.

CAREERS

Career opportunities may include CNC programmer and operator, CAD technician, manufacturing engineering technician and CAD/CAM technician. For information contact Mike Mattson, 503-594-3322 or mattsonm@clackamas.edu

MANUFACTURING ENGINEERING TECHNOLOGY

(Oregon Tech transfer courses)

The Manufacturing Technology Department, in partnership with Oregon Tech, offers a significant number of transferable classes into Oregon Tech’s Manufacturing Engineering Technology degree program.

Contact the Manufacturing Department for more information, 503-594-3318.

computer-aided manufacturing
ASSOCIATE OF APPLIED SCIENCE DEGREE: 1st YEAR

FIRST TERM CREDITS

CDT-102 Sketching and Problem Solving 3

MFG-111 Machine Tool Fundamentals I 6

MTH-050\*\* Technical Mathematics I 3

WR-101\*\* Communication Skills: Occupational Writing 3

SECOND TERM

CDT-108A Introduction to SolidWorks 3

MFG-105 Dimensional Inspection 2

MFG-109 Computer Literacy for Technicians 3

MFG-112 Machine Tool Fundamentals II 6

MTH-080\*\* Technical Mathematics II 3

THIRD TERM

CDT-225 Advanced SolidWorks 3

MFG-106 Applied Geometric Dimensioning & Tolerancing
 for Manufacturing 3

MFG-113 Machine Tool Fundamentals III 6

MFG-221 Materials Science 3

— — CAD/CAM program elective 3

computer-aided manufacturing
ASSOCIATE OF APPLIED SCIENCE DEGREE: 2nd YEAR

FOURTH TERM credits

CDT-223 Inventor Fundamentals 3

MFG-130 Basic Electricity I 3

MFG-201 CNC I: Set-up & Operation 4

MFG-204 Computer-Aided Manufacturing I 4

— —\*\* Human Relations requirement (see page 82) 3

FIFTH TERM

MFG-202 CNC II: Programming & Operation 4

MFG-205 Computer-Aided Manufacturing II 4

MFG-209 Programming & Automation for Manufacturing 3

MFG-107 Industrial Safety & First Aid 3

Sixth Term

MET-170 Introduction to Manufacturing Processes 3

MFG-203 CNC III: Applied Programming & Operation 3

MFG-206 Computer-Aided Manufacturing III 3

MFG-219 Robotics 3

MFG-280 Manufacturing Technology/CWE 4

Credits required for degree 97

computer-aided manufacturing program electives

Any course with a CDT, EET, MFG, RET or WLD prefix.

Students with specialized job training needs may be eligible to substitute some classes. Consult your instructor or the department chair for more information.

\*\*Substitute college transfer courses for these courses if you plan to continue your education at a higher education institution. It is recommended that you consult with a faculty advisor or a staff member in Student Services for the transfer requirements of the specific advanced program or school.