

School of Mathematics, Computer Science  
and Engineering

# Computer-Integrated Manufacturing and Technology

## Faculty

Dwight Collins  
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## Curriculum

The Computer-Integrated Manufacturing and Technology program is part of the college's curriculum in industrial technology. It emphasizes certain aspects of manufacturing, focusing particularly on the application of contemporary computer technology to the manufacturing process. The curriculum stresses contemporary theory and technology, immediate practical experience, adaptability to changing job requirements, and formal study of the various social, environmental, and ethical implications of manufacturing processes. In addition, the curriculum provides a strong grounding in general skills widely required within the manufacturing industry, including writing, analysis, speaking, and various business skills.

## Major

Major elements of Computer-Aided Manufacturing (CAM) include computer-integrated tool design, shop floor technology, and manufacturing production and control technology. Manufacturing technologists work closely with manufacturing engineers in the planning, implementation and evaluation of machines and materials.

Students may pursue an Associate in Science degree or certificate in Computer-Integrated Manufacturing Technology with an emphasis in Computer-Aided Manufacturing. Upon completion of the program, students are fully trained and prepared to assume careers in industry within their area of specialization.

## Certificate in Computer-Aided Manufacturing:

Students must complete all courses in the certificate program with a grade of "C" or better. A minimum of 12 units in the certificate program must be completed at Irvine Valley College. See page 26 for further information.

## Associate in Science Degree in Computer-Aided Manufacturing:

Students must complete a minimum of 60 units of credit, including the courses in the major and general education requirements (page 22), with an overall GPA of 2.0 or better. A minimum of 12 units must be completed at Irvine Valley College. See pages 20–21 for further information, including other options for fulfilling the major requirement.

## Transfer Preparation:

Courses that fulfill major requirements for an associate degree at Irvine Valley College may not be the same as those required for completing the major at a transfer institution offering a baccalaureate degree. Students who plan to transfer to a four-year college or university should (1) refer to the transfer section of this catalog, (2) consult the catalog of their prospective transfer institution (see the IVC Transfer Center for assistance), and (3) schedule an appointment with an IVC counselor to develop a plan of study before beginning their program. It may be helpful to meet with the department faculty at IVC.

## Associate in Science Degree Major or Certificate in Computer-Aided Manufacturing

### Complete the following courses:

		Units
<b>DR 100</b>	Fundamentals of Mechanical Drafting	3
<b>ENGR 23</b>	Engineering Graphics and Descriptive Geometry	3
<b>ENGR 183</b>	Computer-Aided Design Techniques	3
<b>ENT 130</b>	Industrial Automation	3
<b>ENT 140</b>	Manufacturing Processes—Systems Introduction	3
<b>MATH 124</b>	Trigonometry	3
<b>MGT 103</b>	Business English	3

**TOTAL UNITS: 21**

**Recommended Electives:** CIS 1.

## Computer-Integrated Manufacturing and Technology Courses

### **CIMT 289: Special Topics in Computer-Integrated Manufacturing** 0.5–5 units *0.5–5 hours lecture, 0.5–5 hours lab*

The Special Topics course is a grouping of short seminars designed to provide students with the latest concepts in the field of computer-integrated manufacturing. The course content is thematic in nature, and each seminar within the course differs from other offerings in the same course. R-E