

Computer Integrated Manufacturing Engineering Technology

CIM.AAS

CODE	COURSE	CREDITS	CODE	COURSE	CREDITS
First Year/First Semester			Second Year/First Semester		
ENG-101	English Composition I	3	CIM-211	PLC Programming	4
CAD-101	Computer Aided Engineering Graphics	4	CIM-221	CNC Programming & CAM	4
CIM-101	Machine Shop Practices	3	EET-241	Robotics	3
MTH-125	Accelerated Precalculus ¹	4	MET-221	Quality Control	2
		14	PHY-102	Physics II	4
Second Semester			Second Semester		
ENG-102	English Composition II	3	CIM-231	Motors, Controllers and Sensors	3
CST-103	Microcomputer Operating Systems I: Workstation	3	CIM-251	CIM Integration Project or	
EET-101	Electrical/Electronic Principles	4	EGR-208	Co-op I: Engineering	3
MTH-132	Statistics for Technology	4	CIM-212	Advanced PLC Programming or	
PHY-101	Physics I	4	CIM-222	Advanced CNC & CAM	3
		18	CIM-115	Microcontroller Applications or	
			CSC-111	Introduction to Programming or	
			CSC-121	Structured Programming (C++)	3/4
			Diversity - Social Science General Education Elective or	
			Diversity - Humanities General Education Elective	3
			HPE.....	Health & Exercise Science Elective	1
					16/17
				Total Minimum Credits	65

¹The Pre-Calculus Mathematics I (MTH-123) & Pre-Calculus Mathematics II (MTH-124) series of courses may be substituted for Accelerated Precalculus (MTH-125).

PROGRAM DESCRIPTION

Computer Integrated Manufacturing Engineering Technology (CIMET) technicians control, design, maintain, upgrade and operate modern, computer-controlled production equipment and facilities equipment used to manufacture many of the world's goods. The CIMET program equips its graduates with an in-depth multi-disciplinary education in mathematics, physics, engineering technology, both manual and Computer Numerical Controller (CNC) machining, manufacturing processes and methods, industrial electronics, Programmable Logic Controller (PLC) programming and factory automation, as well as a broad education in computer studies, business and liberal arts.

Our highly skilled graduates go on to provide hands-on engineering and managerial service in state-of-the-art high volume and/or high-precision manufacturing enterprises located in southern New Jersey, the Delaware Valley and beyond. Our graduates are currently employed in diverse industries including pharmaceutical and chemical, automotive, packaging, metalworking, aluminum extrusion, mechanical aerospace componentry, bottling and even private consulting companies. Our graduates specialize in either PLC or CNC programming. This program contains the mecatronics technical electives concentration of classes.

PROGRAM GOALS

- To prepare students to qualify for immediate employment or transfer to a baccalaureate program in manufacturing or mechanical engineering technology.
- To provide students with a General Education foundation.

PROGRAM STUDENT LEARNING OUTCOMES

- At the end of the program, the graduate will be able to:
1. Author and troubleshoot Computer Numerically Control (CNC) and Programmable Logic Controller (PLC), and microcontroller programs.
 2. Specify and install those sensors, detectors and electro-mechanical drive elements that are commonly found in industrial automation settings.
 3. Use manual machine shop tooling including manual lathes, mills and drill presses to fabricate and inspect mechanical parts and assemblies to a tolerance of +/- .003 inches.
 4. Read and explain basic pneumatic and hydraulic symbols and schematics.
 5. Analyze, synthesize, modify and troubleshoot manufacturing processes in the field.
 6. Apply mathematical Statistical Process Control techniques to measure and analyze variations in manufacturing processes.

EMPLOYMENT OPPORTUNITIES

- CNC programmer
- Factory automation specialist
- Manufacturing engineering technician
- PLC programmer
- Robot technician
- Technical salesperson

CONTACT PERSONS

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Highlights

Completers of this program are qualified to sit for many of the industry-recognized National Institute for Metalworking Skills (NIMS) machining competency assessment exams.

Nearly a third of all computer and electronic product manufacturing employment is found in Camden and Burlington counties.

Source: NJLWD, Quarterly Census of Employment and Wages Prepared by: New Jersey Department of Labor and Workforce Development December 2012