

PROGRAMS

COMPUTER-INTEGRATED MACHINING

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The Computer-Integrated Machining curriculum prepares students with the analytical, creative and innovative skills necessary to take a production idea from an initial concept through design, development, and production, resulting in a finished product.

Coursework may include manual machining, computer applications, computer-aided machining (CAM), blueprint interpretation, advanced computerized numeric control (CNC) equipment, basic and advanced machining operations, and precision.

Graduates should qualify for employment as machining technicians in high-tech manufacturing, rapid prototyping and rapid-manufacturing industries, specialty machine shops, fabrication industries, and high-tech or emerging industries such as aerospace, aviation, medical, and renewable energy, and to sit for machining certification examinations.

Learning Outcomes

Upon completion of this program, students will be able to:

- The student will be able to interpret blueprints
- The student will be able to create a working assembly of manufactured parts
- The student will be able to apply general principles of mathematics and programming to CNC machine programming and CNC graphics programming
- The student will be able to setup and operate a CNC machine

Accreditation

The Stanly Community College Computer Integrated Machining Program is accredited by the National Institute for Metalworking Skills

(www.nims-skills.org) NIMS is based on industry-written and industry-approved standards. The accredited program demonstrates the ability to produce skilled individuals for workforce needs.

National Institute for Metalworking Skills

10565 Fairfax Boulevard, Suite 10

Fairfax, VA 22030



Computer-Integrated Machining Degree – A50210

First Year		
Fall		Credit Hours
ACA 111	College Student Success	1
CIS 110	Introduction to Computers	3

Programs

ENG 111	Writing and Inquiry	3
MAC 114	Introduction to Metrology	2
MAC 131	Blueprint Reading-Machining I	2
MAC 141	Machining Applications I	4
	Credit Hours	15
Spring		Credit Hours
DFT 151	CAD I	3
ISC 112	Industrial Safety	2
MAC 121	Introduction to CNC	2
MAC 142	Machining Applications II	4
MAC 152	Advanced Machining Calculations	2
MAC 247	Production Tooling	2
MAT 110	Mathematical Measurement and Literacy	3
	Credit Hours	18
Summer		Credit Hours
MAC 231	Cam: Computer Numerical Control Turning	3
MAC 232	CAM: Computer Numerical Control Milling	3
	Credit Hours	6
Second Year		
Fall		Credit Hours
ACA 121	Managing a Team	1
MAC 122	CNC Turning	2
MAC 124	CNC Milling	2
MAC 143	Machining Applications III	4
MAC 241	Jigs & Fixtures I	4
Social Science elective*		3
	Credit Hours	16
Spring		Credit Hours
ENG 112 or ENG 114	Writing and Research in the Disciplines Professional Research & Reporting	3
MAC 222	Advanced CNC Turning	2
MAC 224	Advanced CNC Milling	2
MAC 228	Advanced CNC Processes	3
WBL 110 or WBL 111	World of Work Work-Based Learning I	1
Humanities elective*		3
	Credit Hours	14
	Total Credit Hours	69

Computer-Integrated Machining Part-time Pathway

Term 1	Credit Hours
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ACA 111	College Student Success	1
MAC 131	Blueprint Reading-Machining I	2
MAC 141	Machining Applications I	4
	Credit Hours	7
Term 2		Credit Hours
DFT 151	CAD I	3
MAC 121	Introduction to CNC	2
MAC 142	Machining Applications II	4
MAC 247	Production Tooling	2
	Credit Hours	11
Term 3		Credit Hours
MAC 231	Cam: Computer Numerical Control Turning	3
MAC 232	CAM: Computer Numerical Control Milling	3
	Credit Hours	6
Term 4		Credit Hours
CIS 110	Introduction to Computers	3
ENG 111	Writing and Inquiry	3
MAC 114	Introduction to Metrology	2
	Credit Hours	8
Term 5		Credit Hours
ISC 112	Industrial Safety	2
MAC 152	Advanced Machining Calculations	2
MAT 110	Mathematical Measurement and Literacy	3
	Credit Hours	7
Term 6		Credit Hours
MAC 241	Jigs & Fixtures I	4
Social Science Elective*		3
	Credit Hours	7
Term 7		Credit Hours
ACA 121	Managing a Team	1
MAC 122	CNC Turning	2
MAC 124	CNC Milling	2
	Credit Hours	5
Term 8		Credit Hours
MAC 222	Advanced CNC Turning	2
MAC 224	Advanced CNC Milling	2
WBL 110 or WBL 111	World of Work Work-Based Learning I	1
	Credit Hours	5
Term 9		Credit Hours

Programs

ENG 114	Professional Research & Reporting	3
MAC 143	Machining Applications III	4
	Credit Hours	7
Term 10		Credit Hours
MAC 228	Advanced CNC Processes	3
Humanities Elective*		3
	Credit Hours	6
	Total Credit Hours	69

Computer-Integrated Machining Diploma - D50210

First Year		
Fall		Credit Hours
ACA 111	College Student Success	1
CIS 110	Introduction to Computers	3
MAC 131	Blueprint Reading-Machining I	2
MAC 141	Machining Applications I	4
	Credit Hours	10
Spring		Credit Hours
DFT 151	CAD I	3
MAC 121	Introduction to CNC	2
MAC 142	Machining Applications II	4
MAC 152	Advanced Machining Calculations	2
MAC 247	Production Tooling	2
MAT 110	Mathematical Measurement and Literacy	3
	Credit Hours	16
Summer		Credit Hours
MAC 231	Cam: Computer Numerical Control Turning	3
MAC 232	CAM: Computer Numerical Control Milling	3
	Credit Hours	6
Second Year		
Fall		Credit Hours
ENG 111	Writing and Inquiry	3
MAC 122	CNC Turning	2
MAC 124	CNC Milling	2
MAC 143	Machining Applications III	4
	Credit Hours	11
	Total Credit Hours	43

Computer-Integrated Machining - CNC Turning & Milling Certificate - C50210C

First Year		
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Fall		Credit Hours
MAC 114	Introduction to Metrology	2
MAC 122	CNC Turning	2
MAC 124	CNC Milling	2
MAC 131	Blueprint Reading-Machining I	2
	Credit Hours	8
Spring		Credit Hours
MAC 222	Advanced CNC Turning	2
MAC 224	Advanced CNC Milling	2
	Credit Hours	4
Summer		Credit Hours
MAC 231	Cam: Computer Numerical Control Turning	3
MAC 232	CAM: Computer Numerical Control Milling	3
	Credit Hours	6
	Total Credit Hours	18

Computer-Integrated Machining – Manual Machining Certificate – C50210M

First Year		
Fall		Credit Hours
MAC 114	Introduction to Metrology	2
MAC 131	Blueprint Reading-Machining I	2
MAC 141	Machining Applications I	4
	Credit Hours	8
Spring		Credit Hours
MAC 142	Machining Applications II	4
MAC 152	Advanced Machining Calculations	2
MAC 247	Production Tooling	2
	Credit Hours	8
	Total Credit Hours	16

Computer-Integrated Machining – Manual/CNC Machine Operator Certificate – C50210MC

First Year		
Fall		Credit Hours
MAC 121	Introduction to CNC	2
MAC 141	Machining Applications I	4
	Credit Hours	6
Spring		Credit Hours
MAC 124	CNC Milling	2
MAC 142	Machining Applications II	4
	Credit Hours	6

Programs

Summer		Credit Hours
MAC 122	CNC Turning	2
	Credit Hours	2
	Total Credit Hours	14

Computer-Integrated Machining - CCP

Courses		Credit Hours
MAC 121	Introduction to CNC	2
MAC 131	Blueprint Reading-Machining I	2
MAC 141	Machining Applications I	4
MAC 142	Machining Applications II	4
MAC 143	Machining Applications III	4
MAC 152	Advanced Machining Calculations	2
	Total Credit Hours	18