



MACHINE SHOP: CNC



Pathway: Advanced Transportation & Manufacturing
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Award Title	Academic Plan	Award Type	GE Units	Required Course Units	Major Elective Units	Major Units
Machine Shop CNC	T002914C	A.S.	21*	48	-	48
Machine Shop CNC	T021860D	C		48	-	48

At least 60 degree applicable units are required to earn an Associate degree.
 *GE Units requirements may be fulfilled by completing any General Education Pattern; please consult with a counselor for more details.
 These programs are Financial Aid Eligible.

PROGRAM OVERVIEW

LATTC offers an Associate in Science degree in Machine Shop CNC as well as a Certificate of Achievement.

The Associate in Science degree and Certificate of Achievement, is designed for individuals seeking entry level positions in the field. Students enrolling in this program should be able to commit to full-time student status, which is approximately 21 hours per week. This time commitment is necessary to allow for hands-on training in the lab applications used during the course of instruction.

By fulfilling the program requirements, students will have the necessary knowledge and skills for a career in the Machining Industry. Students will properly use related terminology, safely set-up and operate numerous conventional and computer numerically controlled (CNC) machine tools, use computers to program various CNC machines directly or with Computer Assisted Machinery (CAM), and interpret most related parts and assembly drawings. The general education component classes will give the student a well rounded education and provide knowledge and skills to assist in successful participation in all aspects of society.

PROGRAM LEARNING OUTCOMES (PLOs)

- Upon completion of the **Degree/Certificate** program, students are able to:
- Demonstrate the correct use of machine tools, such as lathes, milling machines, and machining centers, to produce machined products that meet precise specifications.
 - Demonstrate knowledge of the working properties of metals in the production of precision metal parts.
 - Program computer numerically controlled (CNC) machines to perform all of the necessary cuts to create a part.

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Associate in Science Degree
 Major Units: 48 units

Requirements for the Associate in Science degree in Machine Shop CNC may be met by completing **48 units** of Required Courses with a grade of "C" or better along with General Education units. Information on the General Education unit requirements may be found in the catalog under Graduation Requirements.

REQUIRED COURSES

SEMESTER I		UNITS
MSCNC 111	Principles of Machine Tools I	2
MSCNC 112A	Technology and Application of Machining IA	3
MSCNC 112B	Technology and Application of Machining (CAD) IB	1
MSCNC 114	Print Interpretation and Sketching (Blueprint I)	3
MSCNC 115	Basic Applied Mathematical Calculations	3

SEMESTER II		UNITS
MSCNC 121	Principles of Machine Tools II	2
MSCNC 122A	Technology and Application of Machining IIA	3
MSCNC 122B	Technology and Application of Machining IIB	1
MSCNC 124	Print Interpretation and Inspection (Blueprint II)	3
MSCNC 125	Intermediate Applied Mathematical Calculations	3

SEMESTER III		UNITS
MSCNC 131A	Principles of Machine Tools IIIA	2
MSCNC 131B	Principles of Machine Tools (CNC) IIIB	3
MSCNC 132A	Technology and Application of Machining IIIA	3
MSCNC 132B	Technology and Application of Machining (CAM) IIIB	1
MSCNC 135	Advanced Applied Mathematical Calculations	3

SEMESTER IV		UNITS
MSCNC 141	Principles of Machine Tools (CNC) IV	2
MSCNC 142A	Technology and Application of Machining IVA	3
MSCNC 142B	Technology and Application of Machining IVB	1
MSCNC 161A	Computer Assisted Machine Programming (CAM) IA	3
MSCNC 161B	Computer Assisted Machine Programming (CAM) IB	3

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Certificate of Achievement
 Major Units: 48

A Certificate of Achievement in Machine Shop CNC may be earned by completing **48 units** of Required Courses listed under the Associate degree in Machine Shop CNC with a "C" or better in each course.

NOTE: Students are required to provide basic hand tools, Transportation Technology uniform and personal safety equipment.

USEFUL LATTC LINKS:

- College Catalog, Class Schedule & more: <http://www.lattc.edu/academics>
 Financial Aid Office: <http://www.lattc.edu/services/financial-aid>
 Counseling Services & Support: <http://www.lattc.edu/services/support>
 Advanced Transportation & Manufacturing Pathway: <http://www.lattc.edu/ATM>

To register: <http://www.lattc.edu/student-guides/new-student-guide>
 For additional information consult a LATTC college counselor.