Program Overview
Engineering, Math and Physical Sciences division, Room T302, (847) 543-2044

The Computerized Numerical Control program is designed to provide knowledge and skills needed for employment and advancement in the field of CNC Programming. Programming emphasis is on FANUC and HAAS CNC controlled lathes, milling machines and Wire EDM. Advanced placement in the program may be arranged for experienced programmers and operators. The CNC program is accredited by the National Institute for Metalworking Skills (NIMS) and national credentialing is available. Upon completion of certain courses, students will be prepared to take credentialing exams for an additional fee.

To complete an A.A.S., students must meet General Requirements* detailed in the current CLC catalog. Visit www.clcillinois.edu/catalog (select Associate in Applied Science and Career Certificates). All course prerequisites must be met.

Required Phase II Coursework
CAD 117 Introduction to AutoCAD ......... 3
CNC 111 Introductory Geometric Dimensioning and Tolerancing .............. 1
CNC 115 CNC Programming I .............. 3
MTT 211 Jig and Fixture Design .............. 3

Required Phase III Coursework
CAD 170 Introduction to SolidWorks or ......... 3
CAD 171 Introduction to Inventor or .............. 3
CAD 176 Introduction to Creo .................. 3
CNC 215 Advanced Mill Programming .............. 3
Technical Elective .............................. 3

Required Phase IV Coursework
CNC 216 Advanced Lathe Programming .............. 3
CNC 217 Introduction to Wire EDM Machining or ......... 3
EWE 120 Job Readiness Skills .................. 1
EWE 220 Cooperative Work Experience .......... 2-3
CNC 218 Introduction to Master CAM ......... 3
CNC 250 Advanced Manufacturing .............. 3
Technical Elective .............................. 3

Additional Required Coursework
MTH 117 Technical Mathematics I ......... 3
Social Science Elective* ........................ 3

Total Hours for A.A.S. Degree .............. 64-65

Technical Electives
Select six hours from the list below. Approval of technical electives must be obtained from the program advisor.

CAD 270 SolidWorks II ...................... 3
CAD 276 Creo II ...................... 3
CNC 210 CNC Operations II .............. 3
CNC 299 Special Topics: CNC Machining Tech .......... 1-4
LPO 112 Elements of Photonics .............. 3
LPO 111 Fundamentals of Light and Lasers ...................... 4
LPO 113 Photonics-Enabled Technologies .......................... 3
MET 111 Manufacturing Processes .......... 3
MET 112 Basic Metallurgy I .............. 3
MET 116 Machine Components and Repair .............. 3
MET 118 Machinery's Handbook .............. 3
MET 131 Introduction to Robotics .............. 3
MET 214 Mechanical Design and Drafting .............. 3
MTT 111 Machine Shop I .............. 3
MTT 115 Introduction to Die Making .............. 3
MTT 116 Introduction to Moldmaking .............. 3
MTT 210 Machine Shop II .............. 3
MFG 210 Manufacturing Materials .............. 3
WLD 170 General Welding .............. 2

Typical Jobs
• Machinist
• CNC Operator
• CNC Programmer
• Tool and Die Maker
• CNC Setup Technician

Salary and Job Outlook
For the latest information, visit www.mynextmove.org or the Bureau of Labor Statistics online at www.bls.gov. Gainful employment data is available at www.clcillinois.edu/gainfulemployment.

Employers
• Edmik
• Smalley Steel Ring
• NyproMold
• Qualitek Manufacturing
• Ludlow Manufacturing
• Morton Manufacturing
• JST Corporation
• Dynomax Corporation

Getting Started
Visit www.clcillinois.edu/admission for steps on how to register.
Computerized Numerical Control Programming

Grayslake · Vernon Hills · Waukegan · Online

CNC PROGRAMMING/OPERATIONS (Certificate) Plan 24NG
This certificate program provides knowledge and skills needed for entry level employment in CNC programming operating. Students will perform operations and programming on FANUC and HAAS CNC controlled machine tools. Advanced placement and NIMS credentialing may be arranged for experienced machinists.

Phase I .................................................. 12
CNC 110 CNC Operations I ......................... 3
EGR 121 Engineering Graphics ..................... 3
MTT 115 Applied Mathematics II .................. 3
MTT 112 Machining Principles or
MTT 210 Machine Shop II ........................ 3

Phase II .................................................. 12
CNC 115 CNC Programming I .................... 3
CNC 210 CNC Operations II ...................... 3
ENG 120 Technical Composition I or
ENG 121 English Composition I ................ 3
MTT 211 Jig and Fixture Design ................... 3

Phase III .................................................. 6
CNC 215 Advanced Mill Programming or
CNC 216 Advanced Lathe
Programming ........................................ 3
CNC 217 Introduction to Wire
EDM Machining ....................................... 3

Total Hours for Certificate ......................... 30

NIMS Level I CNC Operator/Setup Technician
(Certificate) Plan 24NH
This certificate program provides the knowledge, skills, and abilities for entry level employment in the field of Computerized Numerical Control (CNC) machining as a CNC Mill or Lathe Operator and/or Setup technician. Students will learn basic blueprint reading, metal cutting principles and tools, and the operation of modern FANUC and HAAS CNC controlled vertical machining centerS and turning centerS. Each student will be required to demonstrate competency based on the National Institute for Metalworking Skills (NIMS) nationally validated skill standards. Licenses and lab time will focus on the interpersonal, technical, and employment skills necessary to succeed in the trade. Testing for the following NIMS Level I credentials will be administered during the coursework in which the student will be required to complete a performance test (producing precision parts on the machines) and/or a related theory exam:

Phase I .................................................. 9
CNC 110 CNC Operations I ......................... 3
MTT 110 Machine Trades
Blueprint Reading .................................. 3
MTT 112 Machining Principles ....................... 3

Phase II .................................................. 7-10
CNC 115 CNC Programming I .................... 3
CNC 210 CNC Operations II ...................... 3
EWE 120 Job Readiness Skills .................... 1
EWE 220 Cooperative Work
Experience I ........................................ 1-4

Total Hours for Certificate ......................... 16-19

NIMS LEVEL 1 CNC OPERATOR
(Certificate) Plan 24NH
This certificate provides the knowledge, skills, and abilities for entry level employment in the field of CNC machining as a CNC Mill or Lathe Operator. Students will learn the operations of a modern FANUC and HAAS CNC controlled vertical machining center and turning center. Each student will be required to demonstrate competency based on the National Institute for Metalworking Skills (NIMS) nationally validated skill standards. Lectures and lab time will focus on the interpersonal, technical, and employment skills necessary to succeed in the trade. Testing for the Level 1 NIMS CNC Mill Operator and Lathe Operator credential will be administered during the coursework in which the student will be required to complete both a performance test (producing precision parts on the machines) and a related theory exam.

CNC 110 CNC Operations I ......................... 3
MTT 110 Machine Trades
Blueprint Reading .................................. 3
MTT 112 Machining Principles ....................... 3

Total Hours for Certificate ......................... 9

Contact Info
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