



QUINSIGAMOND

Community College

Manufacturing Technology – Certificate: Program Proposal, Narrative, & Grid

Author/Originator: Lee Duerden

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2012-2013
QUINSIGAMOND COMMUNITY COLLEGE
DEGREE PROGRAM OR CERTIFICATE REVISION PROPOSAL

Program: Manufacturing Technology
Division: Business And Technology
Degree type: Certificate
Provide a detailed list of the proposed changes to the program. <ol style="list-style-type: none"> 1. Remove MAT 123 from Semester 1 2. Add MAT 100 or MAT 108 to Semester 2 3. Remove ENG 101 from program 4. Move MNT 101 from Semester 2 to Semester 1 5. Add MNT 100 in Semester 1 6. Replace MNT 105 with MNT 106 in Semester 2 7. Remove MAT 122/MAT 124 from program 8. Add Elective in Semester 2 9. Add MNT 108 in Semester 2
Attachments: Current program grid Proposed program grid
Submit separate proposals for any new courses or revised courses in the program. <ul style="list-style-type: none"> • MNT 105 Geometric Dimensioning and Tolerancing – replaced with MNT 106 Manufacturing Quality Assurance & Control Techniques • MNT 100 Manufacturing Safety – new course • MNT 108 Basic Machine Operation – new course
Provide a rationale for the proposed changes. These changes reflect industry need for value added training in a one year program. The intent of the new program is to provide an accelerated and credentialed certificate, supporting student entry into a variety of positions within the manufacturing industry. These changes represent curriculum design that supports national and state wide skills standards from MSSC-CPT (Manufacturing Skill Standards Council- Certified Production Technician) and MACWIC (Massachusetts Career Workforce Innovation Collaborative – Applied Manufacturing Technology Certification).
Do any of the proposed changes affect the program goals, the program student learning outcomes, or the course mapping of the General Education Learning Outcomes? If so please provide the revisions. No
Do any of the proposed changes affect another department? Examples include the deletion or addition of program courses that are offered by other departments. Please confer with the coordinators of affected departments.

Department(s) Affected: Math
Do any of the proposed changes affect articulation agreements? Consult with the Transfer Coordinator. No
For an associate degree program, are there any changes in the number of general education credits that could affect MassTransfer? N/A If yes please provide a rationale.
Will any of the following be required: Additional staff <u>NO</u> Additional space <u>NO</u> Additional equipment <u>NO</u> Provide a rationale for any needs indicated and include approximate cost of equipment.

MANUFACTURING TECHNOLOGY CERTIFICATE

Program Goals

The Manufacturing Technology Certificate is designed to introduce the principles of engineering and manufacturing. The program prepares students to apply basic engineering principles and technical skills to the identification and resolution of production problems in the manufacture of products. The student will gain basic knowledge of material properties and identify a variety of production processes to assist in a production environment. Along with enhanced computer skills, the student will be able to communicate effectively in a manufacturing environment and use industry standard software to operate as an entry level manufacturing/engineering technician.

Student Learning Outcomes

Upon completion of the program graduates will be able to:

- Be able to apply mathematical and scientific concepts to solve manufacturing problems.
- Practice safe working protocols to nurture ethical responsibilities.
- Communicate technical information both verbally and in written form.
- Use modern tooling, skills, and techniques for effective manufacturing systems practice.
- Understand the behavior of a variety of material properties as they relate to manufacturing processing.
- Apply accurate design methodology and use industry standard CAD software to improve quality and production.
- Identify problems before they occur and design a solution.

Admissions Process

Admissions inquiries should be directed to admissions@gcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at the following link: http://www.qcc.edu/pages/Enrollment_Steps.html.

Admissions Requirements

High School Diploma or GED/High School Equivalency

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

CORI, SORI, Finger Printing & Drug Testing

A Criminal Offenders Record Information (CORI) and Sexual Offenders Record Information (SORI) are not required for admission. Finger printing and drug testing are not required for admission.

Additional Cost

See page 30 for program fees for this program. (Note: Not all programs have program fees).

Location

This program may be completed at the QCC Worcester campus.

This program may be completed face-to-face.

This program can be completed 50% or more online.

Technical Performance Standards

See page 17 for technical standards for this program. (Note: Not all programs have technical performance standards).

Credit for Prior Learning

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the office of Career Placement Services at careerservices@gcc.mass.edu, 508.854.4439, Room 272 A.

Career Outlook

Please consult The Massachusetts Career Information System at <http://masscis.intocareers.com/> or The Occupational Outlook Handbook at <http://www.bls.gov/oco/> for specific occupational information. The CIP code for this program is 15.0613.

Transfer Articulations & Opportunities

Prospective students may learn more about transfer articulation agreements at the following link: <http://www.qcc.mass.edu/transfer/ArticPathways.html>. More information regarding transfer opportunities is available at: <http://www.qcc.mass.edu/transfer>.

Program Contact: Manufacturing@gcc.mass.edu

Additional Program Information: For the most up to date information, go to the program website at www.QCC.edu.

- If a successful graduate wishes to continue his/her education, the courses required for the certificate in Manufacturing Technology apply to the Associate Degree in Manufacturing Technology.

- The courses in this program are aligned with national standards as set by the National Association of Manufacturers (NAM), Manufacturing Skills Standards Council (MSSC), and statewide standards as defined by the Massachusetts Advancement Center Workforce Innovation Collaborative (MACWIC).
 - Students that successfully complete curriculum requirements may elect to register for the following certification examination: MACWIC Level 1.

Certifications:

Manufacturing Skills Standards Council - Certified Production Technician (MSSC - CPT). <http://www.msscusa.org/production-certification-cpt/>

National Association of Manufacturers (NAM). <http://www.nam.org/>

Massachusetts Advancement Center Workforce Innovation Collaborative (MACWIC). <http://www.macwic.org/>

MANUFACTURING TECHNOLOGY CERTIFICATE (Program Code: MPC)

Course Title	Course #	Offered	Plan to Take	Grade	Credits	Prerequisites
Semester 1						
Manufacturing Safety	MNT 100	F			3	
Mechanical CAD I	MNT 101	F/S			3	
Manufacturing Processes I	MNT 110	F			3	
Basic Machine Operation	MNT 108	F			3	
Semester 2						
Introduction to Microcomputer Applications	CIS 111	F/S/SU			3	
College Algebra <u>or</u>	MAT 100	F/S/SU			3-4	MAT 099 with a "C" or better on the MAT 099 departmental final exam or approp place score
Applied Technical Math	MAT 108					MAT 095 or approp place score
Manufacturing Quality Assurance & Control Techniques	MNT 106	S			4	MNT 101
Maintenance and Instrumentation in Manufacturing	MNT 115	S			3	MNT 110
Total Credits Required					25-26	