



2016-2017 PETITION/PROGRAM SHEET

Degree: Associate of Applied Science
Major: Manufacturing Technology
Emphasis: Machining Technology

About This Degree . . .

The Associate of Applied Science with the Manufacturing Technology major offers classroom instruction and related lab work with hands-on activities in the use of tools and the operation of equipment found in manufacturing. In the Machining Technology emphasis students learn to apply industrial knowledge and skills to plan and implement designs, operate manual mills and lathes, operate computer-aided machinery with CAD/CAM software, and computer-numerical controlled (CNC) machines. Students also develop the skills that enable them to read blueprints, apply appropriate mathematical concepts, and understand the properties of metal and polymers. This course of study is designed to meet competency-based standards set by the manufacturing industry. With this degree, students will be qualified for the following employment opportunities: entry-level machinist, computer-numerical control operator, numerical tool and process technician, manufacturing engineering technician, and manufacturing inspection technician.

For more information on what you can do with this major, go to <http://www.coloradomesa.edu/wccc/programs.html>

All CMU associate graduates are expected to demonstrate proficiency in critical thinking, communication fluency, quantitative fluency, and specialized knowledge/applied learning. In addition to these campus-wide student learning outcomes, graduates of this major will be able to:

1. Use written and oral communication skills needed for entry level employment in the manufacturing industry. (Communication Fluency)
2. Apply mathematical concepts to perform machining tasks. (Quantitative Fluency)
3. Distinguish between tolerances and dimensions, as used in the machining industry. (Critical Thinking)
4. Summarize business practices, principles and application of associated technical skill in the machining in industry. (Specialized Knowledge)
5. Apply the necessary machining skill sets to perform specified manufacturing processes. (Applied Learning)
6. Determine ethical and civil responsibility necessary for employees in the machining industry. (Specialized Knowledge)

NAME: _____ **STUDENT ID #:** _____

LOCAL ADDRESS AND PHONE NUMBER: _____
 _____ () _____

I, (Signature) _____, hereby certify that I have completed (or will complete) all the courses listed on the Program Sheet. I have read and understand the policies listed on the last page of this program sheet. I further certify that the grade listed for those courses is the final course grade received except for the courses in which I am currently enrolled and the courses which I complete next semester. I have indicated the semester in which I will complete these courses.

 Signature of Advisor Date 20____

 Signature of Department Head Date 20____

 Signature of Registrar Date 20____

DEGREE REQUIREMENTS:

- 61 semester hours total (A minimum of 16 taken at CMU in no fewer than two semesters)
- 2.00 cumulative GPA or higher in all CMU coursework and a “C” or better must be achieved in coursework toward major content area.
- Pre-collegiate courses (usually numbered below 100) cannot be used for graduation.
- A student must follow the CMU graduation requirements either from 1) the program sheet for the major in effect at the time the student officially declares a major; or 2) a program sheet for the major approved for a year subsequent to the year during which the student officially declares the major and is approved for the student by the department head. Because a program may have requirements specific to the degree, the student should check with the faculty advisor for additional criteria. It is the student’s responsibility to be aware of, and follow, all requirements for the degree being pursued. Any exceptions or substitutions must be approved by the student’s faculty advisor and Department Head.
- When filling out the program sheet a course can be used only once.
- See the “Requirements for Undergraduate Degrees and Certificates” in the catalog for additional graduation information.

ESSENTIAL LEARNING REQUIREMENTS (Minimum 15 semester Hours) See the current catalog for a list of courses that fulfill the requirements below. If a course is on the Essential Learning list of options and a requirement for your major, you must use it to fulfill the major requirement and make a different selection within the Essential Learning requirement. The Essential Learning capstone course and co-requisite Essential Speech course (required for bachelor’s degrees) cannot be used as options for the below requirements.

| Course No | Title | Sem.hrs | Grade | Term/Trns |
|---|---------------------------------------|---------|-------|-----------|
| Communication (6 semester hours) | | | | |
| ENGL 111 | English Composition | 3 | _____ | _____ |
| ENGL 112 | English Composition | 3 | _____ | _____ |
| -OR- | | | | |
| ENGL 111 | English Composition and | 3 | _____ | _____ |
| SPCH 101 | Interpersonal Communication or | 3 | _____ | _____ |
| SPCH 102 | Speechmaking | 3 | _____ | _____ |
| Mathematics: Minimum Math 107 Career Mathematics (Minimum 3 semester hours) | | | | |
| _____ | _____ | 3 | _____ | _____ |
| Social Sciences, Natural Science, Fine Arts or Humanities (Minimum 6 semester hours) | | | | |
| _____ | _____ | 3 | _____ | _____ |
| _____ | _____ | 3 | _____ | _____ |

| Course No | Title | Sem.hrs | Grade | Term/Trns |
|--|---------------------|---------|-------|-----------|
| WELLNESS REQUIREMENT (2 semester hours) | | | | |
| KINE 100 | Health and Wellness | 1 | _____ | _____ |
| KINA 1 | _____ | 1 | _____ | _____ |

ASSOCIATE OF APPLIED SCIENCE: MANUFACTURING TECHNOLOGY MACHINING TECHNOLOGY COURSE REQUIREMENTS
(44 semester hours)

| Core Classes | | | | |
|---------------------|--------------------------------|---|-------|-------|
| ENGR125 | Computer-aided Design & Fab. | 3 | _____ | _____ |
| OR | | | | |
| CADT 109 | CAD- Mechanical Advanced | 3 | _____ | _____ |
| MAMT101 | Introduction to Manufacturing | 2 | _____ | _____ |
| MAMT105 | Print Reading/Sketching | 2 | _____ | _____ |
| MAMT106 | Geometric Tolerancing | 2 | _____ | _____ |
| MAMT115 | Introduction to Machine Shop | 3 | _____ | _____ |
| MAMT120 | Machine Technology I | 4 | _____ | _____ |
| MAMT125 | Machine Technology II | 4 | _____ | _____ |
| MAMT230 | Machine Technology III | 4 | _____ | _____ |
| MAMT240 | Job Shop Machining II | 3 | _____ | _____ |
| OR | | | | |
| MAMT170 | Practical Applications | 3 | _____ | _____ |
| MAMT148 | CNC Applications | 3 | _____ | _____ |
| MAMT251 | CNC Machining I | 3 | _____ | _____ |
| MAMT255 | CNC Machining II | 3 | _____ | _____ |
| MAMT260 | Properties of Materials | 3 | _____ | _____ |
| MAMT207 | Intro to Statistical Processes | 2 | _____ | _____ |

Restrictive **Electives:** (3 semester hours from list below)
 _____ 3 _____

| Restricted Electives | | | | |
|-----------------------------|-------------------------------|---|-------|-------|
| WELD151 | Introduction to Welding | 3 | _____ | _____ |
| TSTG 220 | Industry Employment Practices | 3 | _____ | _____ |
| CADT 108 | CAD- Mechaning | 3 | _____ | _____ |
| ENGR 105 | Basic Engin. Drawing | 3 | _____ | _____ |

*Please see your advisor for requirements specific to this program.

**SUGGESTED COURSE SEQUENCING FOR THE ASSOCIATE OF APPLIED SCIENCE WITH A MAJOR IN
MANUFACTURING TECHNOLOGY, EMPHASIS IN MACHINING TECHNOLOGY**

This is a recommended sequence of course work. Certain courses may have prerequisites or are only offered during the Fall or Spring semesters. It is the student's responsibility to meet with the assigned advisor and check the 2 year course matrix on the Colorado Mesa website for course availability.

| <u>First Semester</u> | | <u>Hours</u> | <u>Second Semester</u> | | <u>Hours</u> |
|-----------------------|------------------------------|--------------|------------------------|---------------------------------|--------------|
| MAMT 105 | Print Reading/Sketching | 2 | MATH 107 | Career Math | 3 |
| MAMT 106 | Geometric Tolerancing | 2 | MAMT 230 | Machine Technology III | 4 |
| MAMT 115 | Introduction to Machine Shop | 3 | MAMT 251 | CNC Machining I | 3 |
| MAMT 120 | Machine Technology I | 4 | MAMT 255 | CNC Machining II | 3 |
| MAMT 125 | Machine Technology II | 4 | MAMT 240 | Job Shop Machining II or | |
| MAMT 148 | CNC Applications | <u>3</u> | MAMT 170 | Practical Application | <u>3</u> |
| | | 18 | | | 16 |

| <u>Third Semester</u> | | <u>Hours</u> | <u>Fourth Semester</u> | | <u>Hours</u> |
|-----------------------|---|--------------|------------------------|---|--------------|
| ENGL 111 | English Composition | 3 | ENGR 125 | Computer-aided Drafting & Fabrication or | |
| | Essential Learning Social Sciences, Natural Science, Fine Arts or Humanities | 6 | CADT 109 | CAD-Mechanical Advanced | 3 |
| KINE 100 | Health & Wellness | 1 | ENGL 112 | English Composition | 3 |
| MAMT 101 | Introduction to Manufacturing | 2 | MAMT 260 | Properties of Materials | 3 |
| MAMT 207 | Intro to Statistical Process Control | <u>2</u> | KINA 1__ | Activity | 1 |
| | | 14 | Restrictive Electives | | <u>3</u> |
| | | | | | 13 |

POLICIES:

1. Please see the catalog for a complete list of graduation requirements.
2. This program sheet must be submitted with your graduation planning sheet to your advisor during the **semester prior to the semester of graduation, no later than October 1 for spring graduates, no later than March 1 for fall graduates.** You must turn in your "Intent to Graduate" form to the Registrar's Office **by September 15 if you plan to graduate the following May, and by February 15 if you plan to graduate the following December.**
3. Your advisor will sign and forward the Program Sheet and Graduation Planning Sheet to the Department Head for signature. Finally, the Department Head will submit the signed forms to the Registrar's Office. (Students cannot handle the forms once the advisor signs.)
4. If your petition for graduation is denied, it will be your responsibility to reapply for graduation in a subsequent semester. Your "Intent to Graduate" does not automatically move to a later graduation date.
5. NOTE: The semester before graduation, you may be required to take a Major Field Achievement Test (exit exam).