AGENDA
Western Colorado Community College Curriculum Committee
January 20, 2015
BA (Youngblood) Room 126 3:30pm

I. Roll Call:

II. Old Business:

A. Minutes from meeting on December 9, 2014 updates
   1. WCCC Hospitality, Human Services, and Education: Culinary proposal will be presented at the UCC 1/22/15 meeting.
   2. WCCC Business, Applied Science, and Information Services: Technology Integration proposal will be presented at the UCC 1/22/15 meeting.

III. New Business:

A. Course Modification: Manufacturing and Industrial Services
   MAMT 106: Geometric Tolerancing – (modify course description, credit Hours, Co-Requisites)

B. New Course Addition (Approved by Regis Tucci, waiting on Library)
   MAMT 230: Machine Technology III
   MAMT 240: Job Shop Machining II
   MAMT 251: CNC Machining I
   MAMT 255: CNC Machining II
   MAMT 260: Properties of Materials

C. Course Deletion:
   MAMT 130: Machine Technology III
   MAMT 140: Job Shop Machining II
   MAMT 151: Numerical Machining I
   MAMT 155: Numerical Machining II
   MAMT 160: Properties of Materials

D. Program Modification: AAS Manufacturing Technology, Emphasis: Machining Technology
   1. Petition/Program sheet change: Update the program sheets to reflect the changes
      • Course addition: ENGR125 or CADT 109, MAMT 230, MAMT 240, MAMT 251, MAMT 255, MAMT 260

- Removal of CADT 101, MAMT 130, MAMT 140, MAMT 151, MAMT 155, MAMT 160, PHYS 100
- Moved to Restrictive Electives: CAD 108, WELD151, TSTG 220
- Added to Restrictive Electives: ENGR 105 Basic Engin. Drawing
- Sequence change
  - Math 107 or Math 113 moved from 1st to 2nd semester
  - MAMT 105 moved from 2st to 1nd semester
  - MAMT 106 moved from 2nd to 1ST semester

E. Program Modification: AAS Manufacturing Technology, Emphasis: Welding Technology
   1. Petition/Program sheet change: Update the program sheets to reflect the changes
      - Course addition: MAMT 260
      - Removal of MAMT 160

F. Program Modification: AAS Mechanical Engineering Technology
   1. Petition/Program sheet change: Update the program sheets to reflect the changes
      - Course addition: MAMT 251, MAMT 255
      - Removal of MAMT 151, MAMT 155

G. Program Modification: Certificate Manufacturing Technology, Emphasis: Machine and Manufacturing Trades
   1. Petition/Program sheet change: Update the program sheets to reflect the changes
      - Course addition: MAMT 230, MAMT 240, MAMT 251, MAMT 255, MAMT 260
      - Removal of MAMT 130, MAMT 140, MAMT 151, MAMT 155, MAMT 160
      - Sequence change
        - MAMT 105 moved from 2st to 1nd semester

H. Program Modification: Certificate Manufacturing Technology, Emphasis: CAD/CAM
   1. Petition/Program sheet change: Update the program sheets to reflect the changes
      - Course addition: ENGR125, MAMT 115, MAMT 251, MAMT 255

- Removal of CADT 108, MAMT 151, MAMT 155

I. Program Modification: Certificate Manufacturing Technology Cluster, Emphasis: Basic Welding
   1. Petition/Program sheet change: Update the program sheets to reflect the changes
      - Course addition: MAMT 260
      - Removal of MAMT 160

J. Program Modification: BS Applied Mechanical Engineering
   1. Petition/Program sheet change: Update the program sheets to reflect the changes
      - Changed MAMT 106 from 1cr to 2cr

K. Program Deactivation: Certificate Manufacturing Supervision

IV. Adjourn

COLORADO MESA UNIVERSITY

DEPARTMENT WORKSHEET FOR A COURSE ADDITION
Colorado Mesa University Curriculum Committees

NOTE: Each course addition must be submitted on a separate form.

Department Name: **WCCC: Manufacturing and Industrial Services**
     If new department, please enter name:

Course prefix: **MAMT**   Course number: **230**   Credit hours: **4**

Course name: **Machine Technology III**

Course abbreviated schedule name (24 characters maximum): **Machine Technology III**

Contact hours per week: Lecture   Lab   Field   Studio   Other **6**

Type of Instructional Activity (from Table III.2 of Curriculum Policies and Procedures Manual):
Lecture/Laboratory: Vocational/Technical

Academic engagement minutes for a term: 4500   Student preparation minutes for a term: 4500

Earliest term course can be offered: **Fall**   Earliest academic year: **2015-16**

Intended semesters for offering this course: Fall ☒   J-Term ☐   Spring ☐   Summer ☐

Is this to be a <u>general education/essential learning</u> course? **No**   If yes, which category?

If this is a general education course,essential learning course, see requirements in Section III.L. of the Curriculum Policies and Procedures Manual at http://coloradomesa.edu/facsenate/curriculumresources.html

Is this to be an experimental course? **No**   If yes, use the Intra-Departmental Curriculum Change Memo.

List all <u>prerequisites</u> for this course. If none, indicate by checking here: ☒

Course	Credit Hours	Course	Credit Hours
1.		2.	
3.		4.	
5.		6.	
7.		8.	
9.		10.	

List all <u>co-requisites</u> for this course. If none, indicate by checking here: ☒

Course	Credit Hours	Course	Credit Hours
1.		2.	
3.		4.	
5.		6.	
7.		8.	
9.		10.	

(Submit a course modification request, as required, for each course listed above.)

List all programs of study for which this course will be a <u>requirement</u> or a <u>listed choice</u>, including all degrees, majors, minors, certificates, concentrations, cognates, emphases, and options. If none, indicate by checking here: ☐

	Degree Type	Program
1.	**AAS**	**Manufacturing Technology-Machining Technology**
2.	**CERT**	**Manufacturing Technology-Machining and Manufacturing Trades**
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

(Submit a program modification request and a revised program sheet for each program listed above. All prerequisites to this course <u>must</u> be included in each program of study listed above.)

List all courses for which this course is to be a <u>prerequisite</u> or <u>corequisite</u>. If none, indicate by checking here: ☒

1.	2.
3.	4.
5.	6.
7.	8.
9.	10.

(Submit a course modification request, as required, for each course listed above.)

DUPLICATION: Is there overlapping content with present courses offered on campus? **No**
    If yes, explain:

FACULTY FTE: Will additional faculty FTE be required? **No**
    If yes, explain:

EQUIPMENT: Does the course require additional equipment? **No**
    If yes, explain:

LAB FACILITIES: Does the course require additional lab facilities? **No**
    If yes, explain:

Course description as it will appear in the printed catalog:
    Advanced machine operations including O.D. grinding, cutter tool grinding, gear cutting, indexing and rotary table work with an emphasis on workmanship, accuracy and inspection.

Justification for the proposed new course (enter below):

 Course will replace the current MAMT 130, Machine Technology III. Course number and credit hour change to align with Community College Common Course Numbering system nationwide.

Student learning outcomes:
Upon completion of this course, a student should be able to:

1. Define advanced machining operations.

2. Manufacture a product to industry specifications.

Topical course outline: (List of topics only. Do not attach syllabus.)

Introduction to O.D. grinding
Advanced Lathe Operations
Advanced Milling Machine Operations
Tool Cutter Geometries
Process Plans
Inspection Sheets
Professionalism
Final Exam

Discuss the proposal with all departments that might be affected by the proposal.
List the departments and the date and outcome of the discussion below.

None

In addition to providing all the above information, also accomplish the following:

1. Submit the course catalog description to the Course Description Evaluator a week prior to the published proposal submission deadline.

2. Submit this completed form to the Library's Curriculum Committee representative a week prior to the published proposal submission deadline.

3. Obtain departmental approval according to department-specific procedures.

PROPOSED AND PREPARED BY:
Name: **William J. McCracken Jr.**   Date: **9/3/2014**
Email: wimccrac@coloradomesa.edu   Phone: 970.248.1666

REVIEWED BY DEPARTMENT'S CURRICULUM COMMITTEE REPRESENTATIVE:
Name: **Michael Carsten**   Date: **12/19/2014**

APPROVED BY DEPARTMENT HEAD:
Name: **Gary Looft**   Date: **12/18/14**

For Graduate Curriculum Committee: submit this form to the GCC Chair.

For Undergraduate Curriculum Committee: submit this form to Academic Affairs via email at UCC_Chair@coloradomesa.edu.

For WCCC CC Curriculum Committee: submit this form to the WCCC CC Chair.

COLORADO MESA
U N I V E R S I T Y

DEPARTMENT WORKSHEET FOR A COURSE ADDITION
Colorado Mesa University Curriculum Committees

NOTE: Each course addition must be submitted on a separate form.

Department Name: **WCCC: Manufacturing and Industrial Services**
        If new department, please enter name:

Course prefix: **MAMT**   Course number: **240**   Credit hours: **3**

Course name: **Job Shop Machining II**

Course abbreviated schedule name (24 characters maximum): **Job Shop Machining II**

Contact hours per week: Lecture   Lab   Field   Studio   Other **4.5**

Type of Instructional Activity (from Table III.2 of Curriculum Policies and Procedures Manual):
Lecture/Laboratory: Vocational/Technical

Academic engagement minutes for a term: 3375   Student preparation minutes for a term: 3375

Earliest term course can be offered: **Spring**   Earliest academic year: **2015-16**

Intended semesters for offering this course: Fall ☐   J-Term ☐   Spring ☒   Summer ☐

Is this to be a general education/essential learning course? **No**   If yes, which category?

If this is a general education course,essential learning course, see requirements in Section III.L. of the Curriculum Policies and Procedures Manual at http://coloradomesa.edu/facsenate/curriculumresources.html

Is this to be an experimental course? **No**   If yes, use the Intra-Departmental Curriculum Change Memo.

List all prerequisites for this course. If none, indicate by checking here: ☒

Course	Credit Hours	Course	Credit Hours
1.		2.	
3.		4.	
5.		6.	
7.		8.	
9.		10.	

List all co-requisites for this course. If none, indicate by checking here: ☒

Course	Credit Hours	Course	Credit Hours
1.		2.	
3.		4.	
5.		6.	
7.		8.	
9.		10.	

(Submit a course modification request, as required, for each course listed above.)

List all programs of study for which this course will be a <u>requirement</u> or a <u>listed choice</u>, including all degrees, majors, minors, certificates, concentrations, cognates, emphases, and options. If none, indicate by checking here: ☐

	Degree Type	Program
1.	**AAS**	**Manufacturing Technology-Machining Technology**
2.	**CERT**	**Manufacturing Technology-Machining and Manufacturing Trades**
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

**(Submit a program modification request and a revised program sheet for each program listed above.
All prerequisites to this course <u>must </u>be included in each program of study listed above.)**

List all courses for which this course is to be a <u>prerequisite or corequisite</u>. If none, indicate by checking here: ☒

1.	2.
3.	4.
5.	6.
7.	8.
9.	10.

(Submit a course modification request, as required, for each course listed above.)

DUPLICATION: Is there overlapping content with present courses offered on campus? **No**
   If yes, explain:

FACULTY FTE: Will additional faculty FTE be required? **No**
   If yes, explain:

EQUIPMENT: Does the course require additional equipment? **No**
   If yes, explain:

LAB FACILITIES: Does the course require additional lab facilities? **No**
   If yes, explain:

Course description as it will appear in the printed catalog:
   Comprehensive capstone course utilizing all the machine tools in the machining laboratory. Further development of writing process sheets, estimating machine time and performing final inspections on finished projects. Development of prototypes and reverse-engineering concepts using CNC machine tools and 3D printers. Final design presentation and written report.

Justification for the proposed new course (enter below):

Course will replace the current MAMT 140, Job Shop Machining II. Course number change to align with Community College Common Course Numbering system nationwide.

Student learning outcomes:
Upon completion of this course, a student should be able to:

1. Define the process of new product design.
2. Manufacture a product to industry specifications.

Topical course outline: (List of topics only. Do not attach syllabus.)

Team Dynamics
3D Printing Operation
New Product Development
Manual Machining Operations
CNC Machine Tool Operation
Weekly Progress Reports
Professionalism
Final Presentation

Discuss the proposal with all departments that might be affected by the proposal.
List the departments and the date and outcome of the discussion below.

None

In addition to providing all the above information, also accomplish the following:

1. Submit the course catalog description to the Course Description Evaluator a week prior to the published proposal submission deadline.

2. Submit this completed form to the Library's Curriculum Committee representative a week prior to the published proposal submission deadline.

3. Obtain departmental approval according to department-specific procedures.

PROPOSED AND PREPARED BY:
Name: **William J. McCracken Jr.**   Date: **9/3/2014**
Email: wimccrac@coloradomesa.edu   Phone: 970.248.1666

REVIEWED BY DEPARTMENT'S CURRICULUM COMMITTEE REPRESENTATIVE:
Name: **Michael Carsten**   Date: **12/19/2014**

APPROVED BY DEPARTMENT HEAD:
Name: **Gary Looft**   Date: **12/18/14**

For Graduate Curriculum Committee: submit this form to the GCC Chair.

For Undergraduate Curriculum Committee: submit this form to Academic Affairs via email at UCC_Chair@coloradomesa.edu.

For WCCC CC Curriculum Committee: submit this form to the WCCC CC Chair.

DEPARTMENT WORKSHEET FOR A COURSE ADDITION
Colorado Mesa University Curriculum Committees

NOTE: Each course addition must be submitted on a separate form.

Department Name: **WCCC: Manufacturing and Industrial Services**
        If new department, please enter name:

Course prefix: **MAMT**   Course number: **251**   Credit hours: **3**

Course name: **CNC Machining I**

Course abbreviated schedule name (24 characters maximum): **CNC Machining I**

Contact hours per week: Lecture **3**   Lab   Field   Studio   Other

Type of Instructional Activity (from Table III.2 of Curriculum Policies and Procedures Manual):
Lecture

Academic engagement minutes for a term: 2250   Student preparation minutes for a term: 4500

Earliest term course can be offered: **Spring**   Earliest academic year: **2015-16**

Intended semesters for offering this course: Fall ☐   J-Term ☐   Spring ☒   Summer ☐

Is this to be a <u>general education/essential learning</u> course? **No**   If yes, which category?

If this is a general education course,essential learning course, see requirements in Section III.L. of the Curriculum Policies and Procedures Manual at http://coloradomesa.edu/facsenate/curriculumresources.html

Is this to be an experimental course? **No**   If yes, use the Intra-Departmental Curriculum Change Memo.

List all <u>prerequisites</u> for this course. If none, indicate by checking here: ☒

Course	Credit Hours	Course	Credit Hours
1.		2.	
3.		4.	
5.		6.	
7.		8.	
9.		10.	

List all <u>co-requisites</u> for this course. If none, indicate by checking here: ☒

Course	Credit Hours	Course	Credit Hours
1.		2.	
3.		4.	
5.		6.	
7.		8.	
9.		10.	

(Submit a course modification request, as required, for each course listed above.)

List all programs of study for which this course will be a <u>requirement</u> or a <u>listed choice</u>, including all degrees, majors, minors, certificates, concentrations, cognates, emphases, and options. If none, indicate by checking here: ☐

	Degree Type	Program
1.	**AAS**	**Manufacturing Technology-Machining Technology**
2.	**CERT**	**Manufacturing Technology-Machining and Manufacturing Trades**
3.	**CERT**	**Manufacturing Technology-CAD/CAM**
4.	**AAS**	**Mechanical Engineering Technology**
5.		
6.		
7.		
8.		
9.		
10.		

**(Submit a program modification request and a revised program sheet for each program listed above.
All prerequisites to this course <u>must</u> be included in each program of study listed above.)**

List all courses for which this course is to be a <u>prerequisite or corequisite</u>. If none, indicate by checking here: ☒

1.	2.
3.	4.
5.	6.
7.	8.
9.	10.

(Submit a course modification request, as required, for each course listed above.)

DUPLICATION: Is there overlapping content with present courses offered on campus? **No**
   If yes, explain:

FACULTY FTE: Will additional faculty FTE be required? **No**
   If yes, explain:

EQUIPMENT: Does the course require additional equipment? **No**
   If yes, explain:

LAB FACILITIES: Does the course require additional lab facilities? **No**
   If yes, explain:

Course description as it will appear in the printed catalog:
   Computerized numerical control machining operations, including control of functions, programming format, cnc machine setup and operation.

Justification for the proposed new course (enter below):

Course will replace the current MAMT 151, Numerical Control Machining I. Course name and number change to align with Community College Common Course Numbering system nationwide.

Student learning outcomes:
Upon completion of this course, a student should be able to:

1. Define basic computer-aided manufacturing and design concepts.

2. Define basic operations of CNC machine tools, including machine selection, tooling, speeds and feeds.

Topical course outline: (List of topics only. Do not attach syllabus.)

Introduction to CAD/CAM systems
Introduction to Snapping and Geometry
Introduction to Curve Creation
Creation of basic 2.5 dimensional features
2.5 dimensional advanced milling
Multiple fixture documentation
Machine configuration and attributes
Basic CNC machining center setup
Tool selection

Discuss the proposal with all departments that might be affected by the proposal.
List the departments and the date and outcome of the discussion below.

Discussed and approved by Mechanical Engineering faculty and approval from Dr. Tim Brower 9/24/2014.

In addition to providing all the above information, also accomplish the following:

1. Submit the course catalog description to the Course Description Evaluator a week prior to the published proposal submission deadline.

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APPROVED BY DEPARTMENT HEAD:
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DEPARTMENT WORKSHEET FOR A COURSE ADDITION
Colorado Mesa University Curriculum Committees

NOTE: Each course addition must be submitted on a separate form.

Department Name: **WCCC: Manufacturing and Industrial Services**
          If new department, please enter name:

Course prefix: **MAMT**   Course number: **255**   Credit hours: **3**

Course name: **CNC Machining II**

Course abbreviated schedule name (24 characters maximum): **CNC Machining II**

Contact hours per week: Lecture **3**   Lab   Field   Studio   Other

Type of Instructional Activity (from Table III.2 of Curriculum Policies and Procedures Manual):
Lecture

Academic engagement minutes for a term: 2250   Student preparation minutes for a term: 4500

Earliest term course can be offered: **Spring**   Earliest academic year: **2015-16**

Intended semesters for offering this course: Fall ☐   J-Term ☐   Spring ☒   Summer ☐

Is this to be a general education/essential learning course? **No**   If yes, which category?

If this is a general education course,essential learning course, see requirements in Section III.L. of the Curriculum Policies and Procedures Manual at http://coloradomesa.edu/facsenate/curriculumresources.html

Is this to be an experimental course? **No**   If yes, use the Intra-Departmental Curriculum Change Memo.

List all prerequisites for this course. If none, indicate by checking here: ☒

Course	Credit Hours	Course	Credit Hours
1.		2.	
3.		4.	
5.		6.	
7.		8.	
9.		10.	

List all co-requisites for this course. If none, indicate by checking here: ☒

Course	Credit Hours	Course	Credit Hours
1.		2.	
3.		4.	
5.		6.	
7.		8.	
9.		10.	

(Submit a course modification request, as required, for each course listed above.)

List all programs of study for which this course will be a <u>requirement</u> or a <u>listed choice</u>, including all degrees, majors, minors, certificates, concentrations, cognates, emphases, and options. If none, indicate by checking here: ☐

	Degree Type	Program
1.	**AAS**	**Manufacturing Technology-Machining Technology**
2.	**CERT**	**Manufacturing Technology-Machining and Manufacturing Trades**
3.	**CERT**	**Manufacturing Technology-CAD/CAM**
4.	**AAS**	**Mechanical Engineering Technology**
5.		
6.		
7.		
8.		
9.		
10.		

(Submit a program modification request and a revised program sheet for each program listed above. All prerequisites to this course <u>must</u> be included in each program of study listed above.)

List all courses for which this course is to be a prerequisite or corequisite. If none, indicate by checking here: ☒

1.	2.
3.	4.
5.	6.
7.	8.
9.	10.

(Submit a course modification request, as required, for each course listed above.)

DUPLICATION: Is there overlapping content with present courses offered on campus? **No**
   If yes, explain:

FACULTY FTE: Will additional faculty FTE be required? **No**
   If yes, explain:

EQUIPMENT: Does the course require additional equipment? **No**
   If yes, explain:

LAB FACILITIES: Does the course require additional lab facilities? **No**
   If yes, explain:

Course description as it will appear in the printed catalog:
   Further development of concepts introduced in MAMT 251. Emphasis of advanced operations of CNC machine tools.

Justification for the proposed new course (enter below):

Course will replace the current MAMT 155, Numerical Control Machining II. Course name and number change to align with Community College Common Course Numbering system nationwide.

Student learning outcomes:
Upon completion of this course, a student should be able to:

1. Define advanced computer-aided manufacturing and design concepts.

2. Setup advanced operations of CNC machine tools, including machine selection, tooling, speeds and feeds.

Topical course outline: (List of topics only. Do not attach syllabus.)

Introduction to advanced CAD/CAM design
Process plan creation
Inspection Techniques
Advanced CNC machining center setup
Work holding and locating principles
Identification of tooling used in advanced CNC operations
Creation of multiple part work offsets

Discuss the proposal with all departments that might be affected by the proposal.
List the departments and the date and outcome of the discussion below.

Discussed and approved by Mechanical Engineering faculty and approval from Dr. Tim Brower 9/24/2014.

In addition to providing all the above information, also accomplish the following:

1. Submit the course catalog description to the Course Description Evaluator a week prior to the published proposal submission deadline.

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PROPOSED AND PREPARED BY:
Name: **William J. McCracken Jr.**   Date: **9/3/2014**
Email: wimccrac@coloradomesa.edu   Phone: 970.248.1666

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Name: **Michael Carsten**   Date: **12/19/2014**

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For Graduate Curriculum Committee: submit this form to the GCC Chair.

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COLORADO MESA
U N I V E R S I T Y

DEPARTMENT WORKSHEET FOR A COURSE ADDITION
Colorado Mesa University Curriculum Committees

NOTE: Each course addition must be submitted on a separate form.

Department Name: **WCCC: Manufacturing and Industrial Services**
        If new department, please enter name:

Course prefix: **MAMT**   Course number: **260**   Credit hours: **3**

Course name: **Properties of Materials**

Course abbreviated schedule name (24 characters maximum): **Properties of Materials**

Contact hours per week: Lecture **3**   Lab   Field   Studio   Other

Type of Instructional Activity (from Table III.2 of Curriculum Policies and Procedures Manual):
Lecture

Academic engagement minutes for a term: 2250   Student preparation minutes for a term: 4500

Earliest term course can be offered: **Spring**   Earliest academic year: **2015-16**

Intended semesters for offering this course: Fall ☐   J-Term ☐   Spring ☒   Summer ☐

Is this to be a general education/essential learning course? **No**   If yes, which category?

If this is a general education course,essential learning course, see requirements in Section III.L. of the Curriculum Policies and Procedures Manual at http://coloradomesa.edu/facsenate/curriculumresources.html

Is this to be an experimental course? **No**   If yes, use the Intra-Departmental Curriculum Change Memo.

List all prerequisites for this course. If none, indicate by checking here: ☒

Course	Credit Hours	Course	Credit Hours
1.		2.	
3.		4.	
5.		6.	
7.		8.	
9.		10.	

List all co-requisites for this course. If none, indicate by checking here: ☒

Course	Credit Hours	Course	Credit Hours
1.		2.	
3.		4.	
5.		6.	
7.		8.	
9.		10.	

(Submit a course modification request, as required, for each course listed above.)

List all programs of study for which this course will be a <u>requirement</u> or a <u>listed choice</u>, including all degrees, majors, minors, certificates, concentrations, cognates, emphases, and options. If none, indicate by checking here: ☐

	Degree Type	Program
1.	**AAS**	**Manufacturing Technology-Machining Technology**
2.	**CERT**	**Manufacturing Technology-Machining and Manufacturing Trades**
3.	**CERT**	**Manufacturing Technology-Basic Welder**
4.	**AAS**	**Manufacturing Technology-Welding Technology**
5.	**CERT**	**Manufacturing Technology-Welding Technology**
6.		
7.		
8.		
9.		
10.		

(Submit a program modification request and a revised program sheet for each program listed above. All prerequisites to this course <u>must </u>be included in each program of study listed above.)

List all courses for which this course is to be a <u>prerequisite or corequisite</u>. If none, indicate by checking here: ☒

1.	2.
3.	4.
5.	6.
7.	8.
9.	10.

(Submit a course modification request, as required, for each course listed above.)

DUPLICATION: Is there overlapping content with present courses offered on campus? **No**
   If yes, explain:

FACULTY FTE: Will additional faculty FTE be required? **No**
   If yes, explain:

EQUIPMENT: Does the course require additional equipment? **No**
   If yes, explain:

LAB FACILITIES: Does the course require additional lab facilities? **No**
   If yes, explain:

Course description as it will appear in the printed catalog:
   Exploration of the processes of smelting and refining various types of metals. Discussions and demonstrations on heat-treatment, hardness testing and molecular manipulation of metals..

Justification for the proposed new course (enter below):

Course will replace the current MAMT 160, Properties of Materials. Course name and credit hour change to align with Community College Common Course Numbering system nationwide.

Student learning outcomes:
Upon completion of this course, a student should be able to:

1. Define metallurgical concepts.

2. Document the identification of materials, metals, their properties and uses.

Topical course outline: (List of topics only. Do not attach syllabus.)

Practical Applications of Metallurgy
Metallurgical and Chemical Terminology
Hardness
Material Properties
Properties of Steel
Manufacture of Iron and Steel
Crystal Structure
Failure and Deformation of Metals
Iron-carbon Diagrams
Microstructural Analysis
Heat Treating and Quenching
Annealing and Normalizing
Isothermal Transformation Diagrams
Tempering
Surface Hardening
Processing Non-ferrous Metals

Discuss the proposal with all departments that might be affected by the proposal.
List the departments and the date and outcome of the discussion below.

Discussed change with WCCC Welding Department and received approval from faculty. 9/3/2014

In addition to providing all the above information, also accomplish the following:

1. Submit the course catalog description to the Course Description Evaluator a week prior to the published proposal submission deadline.

2. Submit this completed form to the Library's Curriculum Committee representative a week prior to the published proposal submission deadline.

3. Obtain departmental approval according to department-specific procedures.

PROPOSED AND PREPARED BY:
Name: **William J. McCracken Jr.**   Date: **9/3/2014**
Email: wimccrac@coloradomesa.edu   Phone: 970.248.1666

REVIEWED BY DEPARTMENT'S CURRICULUM COMMITTEE REPRESENTATIVE:
Name: **Michael Carsten**   Date: **12/19/2014**

APPROVED BY DEPARTMENT HEAD:
Name: **Gary Looft**   Date: **12/18/14**

For Graduate Curriculum Committee: submit this form to the GCC Chair.

For Undergraduate Curriculum Committee: submit this form to Academic Affairs via email at UCC_Chair@coloradomesa.edu.

For WCCC CC Curriculum Committee: submit this form to the WCCC CC Chair.

COLORADO MESA UNIVERSITY

Department Worksheet for a Course Deletion/De-activation/Re-activation

NOTE: Each course deletion must be submitted on a separate form.

Department Name: **WCCC: Manufacturing and Insustrial Services**   Type of course change: Deletion

Course prefix: **MAMT**   Course number: **130**   Credit hours: **4**

Course name: **Machine Technology III**

Term of change (last term be offered before deletion/de-activation or first term of re-activation): **Spring**
Academic year of change: **2014-15**

Is this a general education/essential learning course? **No**   If yes, which category?

List all programs of study for which this course is a <u>requirement</u> or a <u>listed choice</u>, including all degrees, majors, minors, certificates, concentrations, cognates, emphases, and options. If none, indicate by checking here: ☐

	Degree Type	Program
1.	**AAS**	**Manufacturing Technology-Machining Technology**
2.	**CERT**	**Manufacturing Technology-Machining and Manufacturing Trades**
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

**(Submit a program modification request and a revised program sheet for each program listed above.
All prerequisites to this course <u>must</u> be included in each program of study listed above.)**

List all other courses for which this course is a <u>prerequisite</u>. If none, indicate by checking here:☒

1.	2.
3.	4.
5.	6.
7.	8.
9.	10.

List all other courses for which this course is a <u>co-requisite.</u> If none, indicate by checking here:☒

1.	2.
3.	4.
5.	6.
7.	8.
9.	10.

(Submit a course modification request, as required, for each course listed above.)

Justification for the proposed course deletion, deactivation, or reactivation:

Number change to align with Community College Common Course Numbering system nationwide.

PROPOSED AND PREPARED BY:
Name: **William J. McCracken Jr.**   Date: **9/3/2014**
Email: wimccrac@coloradomesa.edu   Phone: 970.248.1666

REVIEWED BY DEPARTMENT'S CURRICULUM COMMITTEE REPRESENTATIVE:
Name: **Michael Carsten**   Date: **12/19/2014**

APPROVED BY DEPARTMENT HEAD:
Name: **Gary Looft**   Date: **12/18/14**

For Graduate Curriculum Committee: submit this form to the GCC Chair.

For Undergraduate Curriculum Committee: submit this form to Academic Affairs via email at UCC_Chair@coloradomesa.edu.

For WCCC CC Curriculum Committee: submit this form to the WCCC CC Chair.

COLORADO MESA UNIVERSITY

Department Worksheet for a Course Deletion/De-activation/Re-activation

NOTE: Each course deletion must be submitted on a separate form.

Department Name: **WCCC: Manufacturing and Insustrial Services**   Type of course change: Deletion

Course prefix: **MAMT**   Course number: **140**   Credit hours: **3**

Course name: **Job Shop Machining II**

Term of change (last term be offered before deletion/de-activation or first term of re-activation): **Spring**
Academic year of change: **2014-15**

Is this a general education/essential learning course? **No**   If yes, which category?

List all programs of study for which this course is a <u>requirement</u> or a <u>listed choice</u>, including all degrees, majors, minors, certificates, concentrations, cognates, emphases, and options. If none, indicate by checking here: ☐

	Degree Type	Program
1.	**AAS**	**Manufacturing Technology-Machining Technology**
2.	**CERT**	**Manufacturing Technology-Machining and Manufacturing Trades**
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

**(Submit a program modification request and a revised program sheet for each program listed above.
All prerequisites to this course <u>must</u> be included in each program of study listed above.)**

List all other courses for which this course is a <u>prerequisite</u>. If none, indicate by checking here:☒

1.	2.
3.	4.
5.	6.
7.	8.
9.	10.

List all other courses for which this course is a <u>co-requisite.</u> If none, indicate by checking here:☒

1.	2.
3.	4.
5.	6.
7.	8.
9.	10.

(Submit a course modification request, as required, for each course listed above.)

Justification for the proposed course deletion, deactivation, or reactivation:

Number change to align with Community College Common Course Numbering system nationwide.

PROPOSED AND PREPARED BY:
Name: **William J. McCracken Jr.**   Date: **9/3/2014**
Email: wimccrac@coloradomesa.edu   Phone: 970.248.1666

REVIEWED BY DEPARTMENT'S CURRICULUM COMMITTEE REPRESENTATIVE:
Name: **Michael Carsten**   Date: **12/19/2014**

APPROVED BY DEPARTMENT HEAD:
Name: **Gary Looft**   Date: **12/18/14**

For Graduate Curriculum Committee: submit this form to the GCC Chair.

For Undergraduate Curriculum Committee: submit this form to Academic Affairs via email at UCC_Chair@coloradomesa.edu.

For WCCC CC Curriculum Committee: submit this form to the WCCC CC Chair.

Department Worksheet for a Course Deletion/De-activation/Re-activation

NOTE: Each course deletion must be submitted on a separate form.

Department Name: **WCCC: Manufacturing and Insustrial Services**   Type of course change: Deletion

Course prefix: **MAMT**   Course number: **151**   Credit hours: **3**

Course name: **Numerical Machining I**

Term of change (last term be offered before deletion/de-activation or first term of re-activation): **Spring**
Academic year of change: **2014-15**

Is this a general education/essential learning course? **No**   If yes, which category?

List all programs of study for which this course is a <u>requirement</u> or a <u>listed choice</u>, including all degrees, majors, minors, certificates, concentrations, cognates, emphases, and options. If none, indicate by checking here: ☐

	Degree Type	Program
1.	**AAS**	**Manufacturing Technology-Machining Technology**
2.	**CERT**	**Manufacturing Technology-Machining and Manufacturing Trades**
3.	**CERT**	**CAD/CAM**
4.		
5.		
6.		
7.		
8.		
9.		
10.		

**(Submit a program modification request and a revised program sheet for each program listed above.
All prerequisites to this course <u>must</u> be included in each program of study listed above.)**

List all other courses for which this course is a <u>prerequisite</u>. If none, indicate by checking here: ☒

1.	2.
3.	4.
5.	6.
7.	8.
9.	10.

List all other courses for which this course is a <u>co-requisite.</u> If none, indicate by checking here: ☒

1.	2.
3.	4.
5.	6.
7.	8.
9.	10.

(Submit a course modification request, as required, for each course listed above.)

Justification for the proposed course deletion, deactivation, or reactivation:

Name and number change to align with Community College Common Course Numbering system nationwide.

PROPOSED AND PREPARED BY:
Name: **William J. McCracken Jr.**   Date: **9/3/2014**
Email: wimccrac@coloradomesa.edu   Phone: 970.248.1666

REVIEWED BY DEPARTMENT'S CURRICULUM COMMITTEE REPRESENTATIVE:
Name: **Michael Carsten**   Date: **12/19/2014**

APPROVED BY DEPARTMENT HEAD:
Name: **Gary Looft**   Date: **12/18/14**

For Graduate Curriculum Committee: submit this form to the GCC Chair.

For Undergraduate Curriculum Committee: submit this form to Academic Affairs via email at UCC_Chair@coloradomesa.edu.

For WCCC CC Curriculum Committee: submit this form to the WCCC CC Chair.

COLORADO MESA
UNIVERSITY

Department Worksheet for a Course Deletion/De-activation/Re-activation

NOTE: Each course deletion must be submitted on a separate form.

Department Name: **WCCC: Manufacturing and Insustrial Services**   Type of course change: Deletion

Course prefix: **MAMT**   Course number: **155**   Credit hours: **3**

Course name: **Numerical Machining II**

Term of change (last term be offered before deletion/de-activation or first term of re-activation): **Spring**
Academic year of change: **2014-15**

Is this a general education/essential learning course? **No**   If yes, which category?

List all programs of study for which this course is a <u>requirement</u> or a <u>listed choice</u>, including all degrees, majors, minors, certificates, concentrations, cognates, emphases, and options. If none, indicate by checking here: ☐

	Degree Type	Program
1.	**AAS**	**Manufacturing Technology-Machining Technology**
2.	**CERT**	**Manufacturing Technology-Machining and Manufacturing Trades**
3.	**CERT**	**CAD/CAM**
4.		
5.		
6.		
7.		
8.		
9.		
10.		

**(Submit a program modification request and a revised program sheet for each program listed above.
All prerequisites to this course <u>must</u> be included in each program of study listed above.)**

List all other courses for which this course is a <u>prerequisite</u>. If none, indicate by checking here:☒

1.	2.
3.	4.
5.	6.
7.	8.
9.	10.

List all other courses for which this course is a <u>co-requisite.</u> If none, indicate by checking here:☒

1.	2.
3.	4.
5.	6.
7.	8.
9.	10.

(Submit a course modification request, as required, for each course listed above.)

Justification for the proposed course deletion, deactivation, or reactivation:

Name and number change to align with Community College Common Course Numbering system nationwide.

PROPOSED AND PREPARED BY:
Name: **William J. McCracken Jr.**   Date: **9/3/2014**
Email: wimccrac@coloradomesa.edu   Phone: 970.248.1666

REVIEWED BY DEPARTMENT'S CURRICULUM COMMITTEE REPRESENTATIVE:
Name: **Michael Carsten**   Date: **12/19/2014**

APPROVED BY DEPARTMENT HEAD:
Name: **Gary Looft**   Date: **12/18/14**

For Graduate Curriculum Committee: submit this form to the GCC Chair.

For Undergraduate Curriculum Committee: submit this form to Academic Affairs via email at UCC_Chair@coloradomesa.edu.

For WCCC CC Curriculum Committee: submit this form to the WCCC CC Chair.

COLORADO MESA UNIVERSITY

Department Worksheet for a Course Deletion/De-activation/Re-activation

NOTE: Each course deletion must be submitted on a separate form.

Department Name: **WCCC: Manufacturing and Insustrial Services**   Type of course change: Deletion

Course prefix: **MAMT**   Course number: **160**   Credit hours: **2**

Course name: **Numerical Machining II**

Term of change (last term be offered before deletion/de-activation or first term of re-activation): **Spring**
Academic year of change: **2014-15**

Is this a general education/essential learning course? **No**   If yes, which category?

List all programs of study for which this course is a <u>requirement</u> or a <u>listed choice</u>, including all degrees, majors, minors, certificates, concentrations, cognates, emphases, and options. If none, indicate by checking here: ☐

	Degree Type	Program
1.	**AAS**	**Manufacturing Technology-Machining Technology**
2.	**CERT**	**Manufacturing Technology-Machining and Manufacturing Trades**
3.	**CERT**	**Manufacturing Technology-Basic Welder**
4.	**CERT**	**Manufacturing Technology-Welding Technology**
5.	**AAS**	**Manufacturing Technology-Welding Technology**
6.		
7.		
8.		
9.		
10.		

**(Submit a program modification request and a revised program sheet for each program listed above.
All prerequisites to this course <u>must</u> be included in each program of study listed above.)**

List all other courses for which this course is a <u>prerequisite</u>. If none, indicate by checking here: ☒

1.	2.
3.	4.
5.	6.
7.	8.
9.	10.

List all other courses for which this course is a <u>co-requisite.</u> If none, indicate by checking here: ☒

1.	2.
3.	4.
5.	6.
7.	8.
9.	10.

(Submit a course modification request, as required, for each course listed above.)

Justification for the proposed course deletion, deactivation, or reactivation:

Credit hour and number change to align with Community College Common Course Numbering system nothwide.

PROPOSED AND PREPARED BY:
Name: **William J. McCracken Jr.**   Date: **9/3/2014**
Email: wimccrac@coloradomesa.edu   Phone: 970.248.1666

REVIEWED BY DEPARTMENT'S CURRICULUM COMMITTEE REPRESENTATIVE:
Name: **Michael Carsten**   Date: **12/19/2014**

APPROVED BY DEPARTMENT HEAD:
Name: **Gary Looft**   Date: **12/18/14**

For Graduate Curriculum Committee: submit this form to the GCC Chair.

For Undergraduate Curriculum Committee: submit this form to Academic Affairs via email at UCC_Chair@coloradomesa.edu.

For WCCC CC Curriculum Committee: submit this form to the WCCC CC Chair.

Curriculum Proposal from:

1. Manufacturing Technology
2. WCCC: Manufacturing and Industrial Services
3. Bill McCracken - 248-1666, wimccrac@coloradomesa.edu

Program Modification: Changes to the 2015-2016 programs in:

- AAS Manufacturing Technology Emphasis in Welding Technology
- AAS Mechanical Engineering Technology: Emphasis in Mechanical Engineering Technology
- AAS Mechanical Technology: Emphasis in Machining Technology
- CERT Manufacturing Technology: Emphasis in Machine and Manufacturing Trades
- CERT Manufacturing Technology: Emphasis in CAD/CAM
- CERT Welding Technology Emphasis in Basic Welding
- BS Applied Mechanical Engineering: Emphasis in Applied Mechanical Engineering

Curriculum Justification

WCCC AAS and Certification programs Modifications modifications to the AAS Manufacturing Technology/ Machining Technology program were requested and approved by the Manufacturing Advisory Committee in November 2014. The course and program modifications reflect the needs of current manufacturing industries and help prepare the students to be successful in the manufacturing trades.

The program sheet for AAS Manufacturing Technology, AAS Mechanical Engineering Technology, AAS Mechanical Technology, CERT Manufacturing Technology: Emphasis in Machine and Manufacturing Trades, CERT Manufacturing Technology: Emphasis in CAD/CAM, CERT Welding Technology Emphasis in Basic Welding, BS Applied Mechanical Engineering: Emphasis in Applied Mechanical Engineering the have been changed to reflect these updates.

Assistant Technical Professor William J. McCracken, Jr.

COLORADO MESA
U N I V E R S I T Y

DEPARTMENT WORKSHEET FOR PROGRAM ADDITION OR CHANGE
Colorado Mesa University Curriculum Committees

NOTE: All related course changes must be submitted on separate forms.

DEPARTMENT NAME: **WCCC: Manufacturing and Industrial Services**
        If new department, please enter name:

Proposal Type: **Program Modification**

PROGRAM: Degree type: **AAS**   Program/degree Name: **Manufacturing Technology**
                                         Concentration/Emphasis: **Machining Technology**

Effective Term: **Fall**   Effective Academic Year: **2015-16**

If the proposal is to add a program, enter the required information into each text box below.

If the proposal is to modify a program, enter the applicable information into each text box below. If a text box is not applicable, type "N/A".

If the proposal is to delete, deactivate, or reactivate a program, use the Interdepartmental Change Worksheet.

Required information for each proposal for a program addition:
(see Section IV.F.C of Curriculum Manual)

a. Identifying information (see above)

b. Demonstration of compliance with CMU requirements related to student learning outcomes (SLOs):
        1) Identify program student learning outcomes (SLOs)
        2) Identify linkage of program SLOs to institutional SLOs
        3) Illustrate relationship of SLOs to proposed curriculum using curriculum map format
        4) Identify planned assessments for the program SLO.

c. Program goals as they pertain to Colorado Mesa University's goals and objectives and Colorado Mesa University's Role and Mission.

N/A

d. Program strengths, special features, innovations, and/or unique elements.

N/A

e. External agencies, such as program accreditations, professional associations, as well as licensing requirements that have helped shape the program's curriculum (i.e., effects such as length of the program, on program content or mode of delivery, etc.). Do faculty members anticipate seeking program accreditation at appropriate date?

N/A

f. Program admissions requirements (if any beyond admission to institution).

N/A

g. Rationale and justification for the program demonstrating the demand, as evidenced by:
    (1) Employer need/demand as demonstrated by evidence such as:
        (a) identification of several potential employers of program graduates;
        (b) projected regional and/or statewide need for graduates from current labor market analyses and/or future workforce projections/studies (potential source: www.occsupplydemand.org/)
        (c) surveys made by external agencies;
        (d) letters of direct employer support may be used. Include letters indicating the availability of positions for graduates of the proposed programs, signed by individual in a senior position of authority.Page 27 of 41
    (2) Student demand as demonstrated by evidence such as surveys of potential students to answer the question: "what is the student population served by program implementation?"

N/A

h. Relationship of the proposed program to existing programs on campus and to similar programs within the state, with a rationale reflecting that proposed program demand cannot be met by another program (i.e., program implementation is not an unnecessary duplication).

N/A

i. Curriculum, including identification of new courses and the numbers, names, and sequencing of all courses, as well as demonstration of compliance with CMU's Credit Hour Policy as required by the U.S. Department of Education and articulated by the Higher Learning Commission;

N/A

j. List of faculty and their qualifications. (Is there a need for additional faculty?)

N/A

k. Description of learning resources needed for implementation. Scope and quality of library holdings, laboratories, clinical facilities, and technological support as applicable. Department's recommendations for additions to the Library's collection.

N/A

l. Intended delivery mode for program. For programs delivering any of its coursework via 1) alternative formats, 2) outsourcing, and/or 3) a consortial relationship, the program proposal must demonstrate compliance with requirements as specified by the U.S. Department of Education and articulated in the Higher Learning Commission's policies. To demonstrate this compliance, the proposing department must submit a statement from the VPAA's office.

N/A

m. For Professional, Technical or Other Programs, the justification must include:
    (1) Rationale for program to be in the PTO category.
    (2) Statement as to how the curriculum aligns to the requirements or recommendations of the nationally recognized accrediting, licensing, certifying or professional organization.
    (3) Rationale for the program to exceed 60 credit hours, if applicable.

(4) Rationale for prescribing General Education courses, if applicable.

(5) Rationale for prescribing Applied Studies courses, if applicable.

(6) Explanation as to how a transfer student with an AA degree in the discipline of that program can graduate by completing only an additional 60 hours.

N/A

n. Enrollment Projections, Table 1. (at end of this document)

o. Physical Capacity Estimates, Table 2. (at end of this document)

p. Program Costs – Projected Expense and Revenue Estimates, Table 3. (at end of this document)

Required information for a program modification:
   If change to program name, enter new name: **N/A**
   If change to the concentration/emphasis, enter: **N/A**
   Is there a revision to the program sheet? **Yes**

In addition to providing all of the above information, also accomplish the following:

1. Discuss the proposal with all departments affected by the program
2. If this proposal is for a program addition, complete the three CDHE tables at the end of this document.
3. If this proposal is for a program addition, submit complete program sheet. If this proposal is for a program modification, submit current program sheet marked up with all proposed changes.
4. Submit this completed form to the Library's Curriculum Committee representative a week prior to the published proposal submission deadline.
5. Obtain departmental approval according to department-specific procedures.

* The most up-to-date program sheets are available as Word documents at R:\Curriculum\Program Sheets for Curriculum Program Modifications.

PROPOSED AND PREPARED BY:
Name: **William J. McCracken Jr.**   Date: **10/1/2014**
Email: **wimccrac@coloradomesa.edu**   Phone: **970.248.1666**

REVIEWED BY DEPARTMENT'S CURRICULUM COMMITTEE REPRESENTATIVE:
Name: **Michael Carsten**   Date: **12/19/2014**

APPROVED BY DEPARTMENT HEAD:
Name: **Gary Looft**   Date: **12/18/14**

APPROVED BY DIRECTOR OF TEACHER EDUCATION (REQUIRED FOR TEACHING PROGRAMS)
Name: Date:

For Graduate Curriculum Committee: submit this form to the GCC Chair.

For Undergraduate Curriculum Committee: submit this form to Academic Affairs via email at UCC_Chair@coloradomesa.edu.

For WCCC Curriculum Committee: submit this form to the WCCC CC Chair.

TABLE 1: ENROLLMENT PROJECTIONS

Name of Program: _____N/A_____

Degree Title   _____

Name of Institution: _____

DEFINITIONS:

Academic year is the period beginning July 1 and concluding June 30.

Headcount projections represent an unduplicated count of those students officially admitted to the program and enrolled at the institution during the academic year.

FTE is defined as the full-time equivalent number of those students majoring in the program, regardless of the classes enrolled, during the academic year.

Program graduate is defined as a student who finishes all academic program requirements and graduates with a formal award within a particular academic year.

SPECIAL NOTES:

To calculate the annual headcount enrollment, add new enrollees to the previous year headcount and subtract the number who graduated in the preceding year. Adjust by the anticipated attrition rate.

To calculate FTE, multiply the number of students times the projected number of credit hours degree seeking students will be typically enrolled in per year and divide by 30.

The data in each column is the annual **unduplicated** number of declared program majors. Since this table documents program demand, course enrollments are not relevant and shall not be included in the headcount or FTE data.

		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Full Implementation
1-a	In-state Headcount						
1-b	Out-of-State Headcount						
2	Program Headcount						
3-a	In-state FTE						
3-b	Out-of-State FTE						
4	Program FTE						
5	Program Graduates						

_____   _____
Signature of Governing Board Officer   Date

TABLE 2: PHYSICAL CAPACITY ESTIMATES

Name of Program: _____N/A_____

Name of Institution: _____

Purpose: This table documents the physical capacity of the institution to offer the program and/or the plan for achieving the capacity. Complete A or B.

Part A

I certify that this proposed degree program can be fully implemented and accommodate the enrollment projections provided in this proposal without requiring additional space or renovating existing space during the first five years.

_____ _____
Governing Board Capital Construction Officer   Date

Part B

	Column 1	Column 2	Column 3		Column 4		Column 5	Column 6
ASSIGNABLE SQUARE FEET	TOTAL NEEDED	AVAILABLE	RENOVATION		NEW CONSTRUCTION		LEASE/ RENT	REVENUE SOURCE*
TYPE OF SPACE			Immed	Future	Immed	Future		
Classroom								
Instructional Lab								
Offices								
Study								
Special/ General Use								
Other								
TOTAL								

* Capital Construction Fund (CCF), Research Building Revolving Fund (RBRF), Gift (GIFT), Grant (GR), Auxiliary Fund (AUX)

Attach a narrative describing the institutional contingency plan that addresses the space requirements of the proposed program or alternative delivery options, in the event that the request for capital construction or renovation is not approved.

_____ _____
Governing Board Capital Construction Officer   Date

Approved Policy   I-B-10   June 5, 2003

TABLE 3 – PROJECTED EXPENSE AND REVENUE ESTIMATES

All cost and revenue projections should be in constant dollars (do not include an inflation factor).

	ESTIMATED AMOUNT IN DOLLARS (PV)				
	Year 1	Year 2	Year 3	Year 4	Year 5
Operating Expenses:					
1 Faculty					
2 Financial Aid specific to program					
3 Instructional Materials					
4 Program Administration					
5 Rent/Lease					
6 Other Operating Costs					
7 Total Operating Expenses					
Program Start-Up Expenses					
8 Capital Construction					
9 Equipment Acquisitions					
10 Library Acquisitions					
11 Total Program Start-Up Exp.					
TOTAL PROGRAM EXPENSES					
Enrollment Revenue					
12 General Fund: State Support					
13 Cash Revenue: Tuition					
14 Cash Revenue: Fees					
Other Revenue					
15 Federal Grants					
16 Corporate Grants/Donations					
17 Other fund sources *					
18 Institutional Reallocation **					
TOTAL PROGRAM REVENUE					

** If revenues are projected in this line, please attach an explanation of the specific source of the funds. If reallocated, the specific departments and the impact the dollars will have on the departments that will provide the reallocated dollars.

_____   _____   _____
Signature of Governing Board Financial Officer   Title   Date

Approved Policy   I-B-12   June 5, 2003

20142015-2015 2016 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 KnowledgeEthics)

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.

_____ 20_____
Signature of Advisor   Date

_____ 20_____
Signature of Department Head   Date

_____ 20_____
Signature of Registrar   Date

Students should work closely with a faculty advisor when selecting and scheduling courses prior to registration.

Degree Requirements:
- ~~69~~ 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 "Undergraduate Graduation Requirements" in the catalog for additional graduation information.

GENERAL EDUCATION 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 general education 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 general education requirement.

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 or Selected Applied Studies Courses* (Minimum 6 semester hours)
_____ ____ _____ 3 _____ _____

Course No Title	Sem.hrs	Grade	Term/Trns
_____ ____ _____	3	_____	_____

OTHER LOWER DIVISION REQUIREMENTS
Wellness (2 semester hours)
KINE 100 Health and Wellness	1	_____	_____
KINA 1____ _____	1	_____	_____

ASSOCIATE OF APPLIED SCIENCE: MANUFACTURING TECHNOLOGY MACHINING TECHNOLOGY COURSE REUQIREMENTS
(~~52 41~~44 semester hours)

Core Classes
~~CADT101~~	~~Introduction to Computers~~	~~1~~	~~_____~~	~~_____~~
~~CADT 108~~	~~CAD Mechanical~~	~~3~~	~~_____~~	~~_____~~
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	~~1~~2	_____	_____
MAMT115	Introduction to Machine Shop	3	_____	_____
MAMT120	Machine Technology I	~~4~~4	_____	_____
MAMT125	Machine Technology II	~~4~~4	_____	_____
~~MAMT130~~MAMT230	Machine Technology III	~~4~~4	_____	
~~MAMT140~~MAMT240	Job Shop Machining II	3	_____	_____
OR				
MAMT170	Practical Applications	3	_____	_____
MAMT148	CNC Applications	3	_____	_____
~~MAMT151~~MAMT251	~~Numerical Control~~CNC Machining I	3	_____	_____
~~MAMT155~~MAMT255	~~Numerical Control~~CNC Machining II	3	_____	_____
~~MAMT160~~MAMT260	Properties of Materials	~~2~~3	_____	_____
MAMT207	Intro to Statistical Processes	2	_____	_____
~~TSTG 220~~	~~Industry Employment Practices~~	~~3~~	~~_____~~	~~_____~~
~~WELD151~~	~~Introduction to Welding~~	~~3~~	~~_____~~	~~_____~~
~~PHYS100~~	~~Concepts of Physics~~	~~3~~	~~_____~~	~~_____~~
~~(or higher)~~				

~~Restrictive~~ **Electives:** (3 semester hours)

– WELD151	Introduction to Welding	3	_____
TSTG 220	Industrial Employ. Practices	3	_____
CADT 108	CAD- Mechanical	3	_____
ENGR 105	Basic Engin. Drawing	3	_____
_____ _____ _____			
_____ _____	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.

First Semester		Hours
MAMT 105	Print Reading/Sketching	2
MAMT 106	Geometric Tolerancing	2
~~MATH 107~~	~~Math for Technology~~ **or**	
~~MATH 113~~	~~College Algebra~~	~~3~~
MAMT 115	Introduction to Machine Shop	3
MAMT 120	Machine Technology I	~~4~~4
MAMT 125	Machine Technology II	~~4~~4
MAMT 148	CNC Applications	3
		~~18~~18

Second Semester		Hours
MATH 107	Math for Technology or	
MATH 113	College Algebra	3
MAMT ~~130~~230	Machine Technology II~~I~~	~~4~~4
MAMT ~~151~~251	~~Numerical Control~~CNC Machining I	3
MAMT ~~155~~255	~~Numerical Control~~CNC Machining II	3
MAMT ~~140~~240	Job Shop Machining II **or**	
MAMT 170	Practical Application	3
~~MAMT 160~~	~~Properties of Materials~~	~~2~~
~~MAMT 105~~	~~Print Reading/Sketching~~	~~2~~
~~MAMT 106~~	~~Geometric Tolerancing~~	~~1~~
		~~18~~16

Third Semester		Hours
ENGL 111	English Composition	3
General Education Soc/Beh Sci., Humanities, Speech		6
~~CADT 101~~	~~Introduction to Computers~~	~~1~~
~~KINE 100~~	~~Health & Wellness~~	~~1~~
MAMT 101	~~Introduction to Manufacturing~~	~~2~~
~~General Education Soc/Beh Sci., Humanities, Speech~~		~~6~~
~~ENGL 111~~	~~English Composition~~	~~3~~
MAMT 207	Intro to Statistical Process Control	2
~~PHYS 100~~	~~Concepts of Physics~~	~~3~~
~~(or higher)~~		
~~KINE 100~~	~~Health & Wellness~~	~~1~~
		~~18~~14

Fourth Semester		Hours
~~CADT 108~~ENGR125	~~CAD Mechanical~~Computer-aided Drafting ~~&Fabrication~~ or	
CADT 109	CAD- Mechanical Advanced	3
ENGL 112	English Composition	3
MAMT 260	Properties of Materials	3
KINA 1__	Activity	1
~~TSTG 220~~	~~Industry Employment Practices~~	~~3~~
~~WELD 151~~	~~Introduction to Welding~~	~~3~~
~~KINA 1__~~	~~Activity~~	~~1~~
Electives		3
		~~16~~13

POLICIES:
1. It is your responsibility to determine whether you have met the requirements for your degree. Please see the catalog for a complete list of graduation requirements.
2. 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. 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.**
4. Your advisor will sign and forward the Program Sheet and Graduation Planning Sheet to the Department Head for signature.
5. Finally, the Department Head or the department administrative assistant will take the signed forms to the Registrar's Office. (Students cannot handle the forms once the advisor signs.)

6. 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.
7. NOTE: The semester before graduation, you may be required to take a Major Field Achievement Test (exit exam).

COLORADO MESA UNIVERSITY

DEPARTMENT WORKSHEET FOR PROGRAM ADDITION OR CHANGE
Colorado Mesa University Curriculum Committees

NOTE: All related course changes must be submitted on separate forms.

DEPARTMENT NAME: **WCCC: Manufacturing and Industrial Services**
      If new department, please enter name:

Proposal Type: **Program Modification**

PROGRAM: Degree type: **AAS**   Program/degree Name: **Manufacturing Technology**
                                   Concentration/Emphasis: **Welding Technology**

Effective Term: **Fall**   Effective Academic Year: **2015-16**

If the proposal is to add a program, enter the required information into each text box below.

If the proposal is to modify a program, enter the applicable information into each text box below. If a text box is not applicable, type "N/A".

If the proposal is to delete, deactivate, or reactivate a program, use the Interdepartmental Change Worksheet.

Required information for each proposal for a program addition:
(see Section IV.F.C of Curriculum Manual)

a. Identifying information (see above)

b. Demonstration of compliance with CMU requirements related to student learning outcomes (SLOs):
        1) Identify program student learning outcomes (SLOs)
        2) Identify linkage of program SLOs to institutional SLOs
        3) Illustrate relationship of SLOs to proposed curriculum using curriculum map format
        4) Identify planned assessments for the program SLO.

c. Program goals as they pertain to Colorado Mesa University's goals and objectives and Colorado Mesa University's Role and Mission.

N/A

d. Program strengths, special features, innovations, and/or unique elements.

N/A

e. External agencies, such as program accreditations, professional associations, as well as licensing requirements that have helped shape the program's curriculum (i.e., effects such as length of the program, on program content or mode of delivery, etc.). Do faculty members anticipate seeking program accreditation at appropriate date?

N/A

f. Program admissions requirements (if any beyond admission to institution).

N/A

g. Rationale and justification for the program demonstrating the demand, as evidenced by:
    (1) Employer need/demand as demonstrated by evidence such as:
        (a) identification of several potential employers of program graduates;
        (b) projected regional and/or statewide need for graduates from current labor market analyses and/or future workforce projections/studies (potential source: www.occsupplydemand.org/)
        (c) surveys made by external agencies;
        (d) letters of direct employer support may be used. Include letters indicating the availability of positions for graduates of the proposed programs, signed by individual in a senior position of authority.Page 27 of 41
    (2) Student demand as demonstrated by evidence such as surveys of potential students to answer the question: "what is the student population served by program implementation?"

N/A

h. Relationship of the proposed program to existing programs on campus and to similar programs within the state, with a rationale reflecting that proposed program demand cannot be met by another program (i.e., program implementation is not an unnecessary duplication).

N/A

i. Curriculum, including identification of new courses and the numbers, names, and sequencing of all courses, as well as demonstration of compliance with CMU's Credit Hour Policy as required by the U.S. Department of Education and articulated by the Higher Learning Commission;

N/A

j. List of faculty and their qualifications. (Is there a need for additional faculty?)

N/A

k. Description of learning resources needed for implementation. Scope and quality of library holdings, laboratories, clinical facilities, and technological support as applicable. Department's recommendations for additions to the Library's collection.

N/A

l. Intended delivery mode for program. For programs delivering any of its coursework via 1) alternative formats, 2) outsourcing, and/or 3) a consortial relationship, the program proposal must demonstrate compliance with requirements as specified by the U.S. Department of Education and articulated in the Higher Learning Commission's policies. To demonstrate this compliance, the proposing department must submit a statement from the VPAA's office.

N/A

m. For Professional, Technical or Other Programs, the justification must include:
    (1) Rationale for program to be in the PTO category.
    (2) Statement as to how the curriculum aligns to the requirements or recommendations of the nationally recognized accrediting, licensing, certifying or professional organization.
    (3) Rationale for the program to exceed 60 credit hours, if applicable.

(4) Rationale for prescribing General Education courses, if applicable.

(5) Rationale for prescribing Applied Studies courses, if applicable.

(6) Explanation as to how a transfer student with an AA degree in the discipline of that program can graduate by completing only an additional 60 hours.

N/A

n. Enrollment Projections, Table 1. (at end of this document)

o. Physical Capacity Estimates, Table 2. (at end of this document)

p. Program Costs – Projected Expense and Revenue Estimates, Table 3. (at end of this document)

Required information for a program modification:
     If change to program name, enter new name: **N/A**
     If change to the concentration/emphasis, enter: **N/A**
     Is there a revision to the program sheet? **Yes**

In addition to providing all of the above information, also accomplish the following:

1. Discuss the proposal with all departments affected by the program
2. If this proposal is for a program addition, complete the three CDHE tables at the end of this document.
3. If this proposal is for a program addition, submit complete program sheet. If this proposal is for a program modification, submit current program sheet marked up with all proposed changes.
4. Submit this completed form to the Library's Curriculum Committee representative a week prior to the published proposal submission deadline.
5. Obtain departmental approval according to department-specific procedures.

* The most up-to-date program sheets are available as Word documents at R:\Curriculum\Program Sheets for Curriculum Program Modifications.

PROPOSED AND PREPARED BY:
Name: **William J. McCracken Jr.**   Date: **10/1/2014**
Email: **wimccrac@coloradomesa.edu**   Phone: **970.248.1666**

REVIEWED BY DEPARTMENT'S CURRICULUM COMMITTEE REPRESENTATIVE:
Name: **Michael Carsten**   Date: **12/19/2014**

APPROVED BY DEPARTMENT HEAD:
Name: **Gary Looft**   Date: **12/18/14**

APPROVED BY DIRECTOR OF TEACHER EDUCATION (REQUIRED FOR TEACHING PROGRAMS)
Name: Date:

For Graduate Curriculum Committee: submit this form to the GCC Chair.

For Undergraduate Curriculum Committee: submit this form to Academic Affairs via email at UCC_Chair@coloradomesa.edu.

For WCCC Curriculum Committee: submit this form to the WCCC CC Chair.

TABLE 1: ENROLLMENT PROJECTIONS

Name of Program: _____N/A_____

Degree Title   _____

Name of Institution: _____

DEFINITIONS:

Academic year is the period beginning July 1 and concluding June 30.

Headcount projections represent an unduplicated count of those students officially admitted to the program and enrolled at the institution during the academic year.

FTE is defined as the full-time equivalent number of those students majoring in the program, regardless of the classes enrolled, during the academic year.

Program graduate is defined as a student who finishes all academic program requirements and graduates with a formal award within a particular academic year.

SPECIAL NOTES:

To calculate the annual headcount enrollment, add new enrollees to the previous year headcount and subtract the number who graduated in the preceding year. Adjust by the anticipated attrition rate.

To calculate FTE, multiply the number of students times the projected number of credit hours degree seeking students will be typically enrolled in per year and divide by 30.

The data in each column is the annual **unduplicated** number of declared program majors. Since this table documents program demand, course enrollments are not relevant and shall not be included in the headcount or FTE data.

		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Full Implementation
1-a	In-state Headcount						
1-b	Out-of-State Headcount						
2	Program Headcount						
3-a	In-state FTE						
3-b	Out-of-State FTE						
4	Program FTE						
5	Program Graduates						

_____   _____
Signature of Governing Board Officer   Date

TABLE 2: PHYSICAL CAPACITY ESTIMATES

Name of Program: _____N/A_____

Name of Institution: _____

Purpose: This table documents the physical capacity of the institution to offer the program and/or
the plan for achieving the capacity. Complete A or B.

Part A

I certify that this proposed degree program can be fully implemented and accommodate the enrollment
projections provided in this proposal without requiring additional space or renovating existing space
during the first five years.

_____   _____
Governing Board Capital Construction Officer   Date

Part B

ASSIGNABLE SQUARE FEET	Column 1 TOTAL NEEDED	Column 2 AVAILABLE	Column 3 RENOVATION		Column 4 NEW CONSTRUCTION		Column 5 LEASE/ RENT	Column 6 REVENUE SOURCE*
TYPE OF SPACE			Immed	Future	Immed	Future		
Classroom								
Instructional Lab								
Offices								
Study								
Special/ General Use								
Other								
TOTAL								

* Capital Construction Fund (CCF), Research Building Revolving Fund (RBRF), Gift (GIFT), Grant (GR), Auxiliary Fund
(AUX)

Attach a narrative describing the institutional contingency plan that addresses the space requirements of the proposed
program or alternative delivery options, in the event that the request for capital construction or renovation is not approved.

_____   _____
Governing Board Capital Construction Officer   Date

Approved Policy   I-B-10   June 5, 2003

TABLE 3 – PROJECTED EXPENSE AND REVENUE ESTIMATES

All cost and revenue projections should be in constant dollars (do not include an inflation factor).

		ESTIMATED AMOUNT IN DOLLARS (PV)				
		Year 1	Year 2	Year 3	Year 4	Year 5
Operating Expenses:						
1	Faculty					
2	Financial Aid specific to program					
3	Instructional Materials					
4	Program Administration					
5	Rent/Lease					
6	Other Operating Costs					
7	Total Operating Expenses					
Program Start-Up Expenses						
8	Capital Construction					
9	Equipment Acquisitions					
10	Library Acquisitions					
11	Total Program Start-Up Exp.					
TOTAL PROGRAM EXPENSES						
Enrollment Revenue						
12	General Fund: State Support					
13	Cash Revenue: Tuition					
14	Cash Revenue: Fees					
Other Revenue						
15	Federal Grants					
16	Corporate Grants/Donations					
17	Other fund sources *					
18	Institutional Reallocation **					
TOTAL PROGRAM REVENUE						

** If revenues are projected in this line, please attach an explanation of the specific source of the funds. If reallocated, the specific departments and the impact the dollars will have on the departments that will provide the reallocated dollars.

_____   _____   _____
Signature of Governing Board Financial Officer   Title   Date

Approved Policy   I-B-12   June 5, 2003

20142015 2015 2016 PETITION/PROGRAM SHEET
Degree: Associate of Applied Science
Major: Manufacturing Technology
Emphasis: Welding Technology

About This Emphasis . . .

The Welding Technology Degree program is designed to provide training and the opportunity to become proficient at SMAW, GWAWGMAW, GTAW, FCAW, OAW, OAC, PAC, CAC-A on plate and SMAW on pipe. Students study welding, cutting, layout, fabrication, fluid power, pneumatics and technical math. Safety, attitude and quality of workmanship are stressed throughout this course. The welding AAS degree prepares students for advanced level placement in a wide range of jobs in the welding industry and is designed to meet competency based standards set by the American Welding Society.

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. Apply business communication using listening, verbal and written forms that are needed for entry level employment in the industry. (Communication Fluency)
2. Apply Mathematical concepts for the Welding industry to meet entry level employment requirements.(Quantitative Fluency
3. Research, evaluate, synthesize and apply information/data relevant to the wWelding industry. (Critical Thinking)
4. Demonstrate knowledge of terminology, symbols, business practices, principles and application of associated technical skills in the industry. (Specialized Knowledge)
5. Perform the necessary applied Welding Welding skill sets to fulfill the needs of entry level employment. (Applied Learning)
6. Demonstrate ethical and civic responsibility necessary for employees in the welding industry. (Specialized KnowledgeEthicsSpecialized 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.

_____20_____
Signature of Advisor   Date

_____20_____
Signature of WCCC Director   Date

_____20_____
Signature of Registrar   Date

Students should work closely with a faculty advisor when selecting and scheduling courses prior to registration.

Degree Requirements:
- ~~64~~ 65 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.
- See the "Undergraduate Graduation Requirements" in the catalog for additional graduation information.

GENERAL EDUCATION 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 general education list of options and a requirement for your major, <u>you must use it to fulfill the major requirement</u> and make a different selection within the general education requirement.

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	____	____

Math: Minimum Math 107 Career Mathematics (Minimum 3 semester hours)
_____ ____ _____ 3   ____ _____

Social Sciences, Natural Science, Fine Arts, or Humanities or Selected Applied Studies Courses* (Minimum 6 semester hours)
_____ ____ _____ 3   ____ _____
_____ ____ _____ 3   ____ _____

Course No	Title	Sem.hrs	Grade	Term/Trns
OTHER LOWER DIVISION REQUIREMENTS				
Wellness (2 semester hours)				
KINE 100	Health and Wellness	1	____	_____
KINA 1____	_____	1	____	_____

ASSOCIATE OF APPLIED SCIENCE: MANUFACTURING TECHNOLOGY – WELDING TECHNOLOGY COURSE REQUIREMENTS
(~~47 4~~58 semester hours)

Core Classes

Course No	Title	Sem.hrs	Grade	Term/Trns
CADT101	Introduction to Computers	1	____	_____
CADT108	Computer Aided Design	3	____	_____
MAMT105	Print Reading/Sketching	2	____	_____
MAMT101	Intro to Manufacturing	2	____	_____
MAMT115	Intro to Machine Shop	3	____	_____
MAMT150	Intro to Numerical Control	1	____	_____
~~MAMT160~~MAMT260	Properties of Materials	~~2~~3	____	_____
TSTG 150	Fluid Power	3	____	_____
TSTG 220	Industry Employment Practices	3	____	_____
OR				
TSTG 120	Industrial Safety Practices	3	____	_____
WELD110	Shielded Metal Arc Welding	3	____	_____
WELD117	Oxy/Fuel & Plasma Cutting	3	____	_____
WELD133	Metal Fabrication Methods	3	____	_____
WELD144	Welding Business Operations	3	____	_____
WELD211	GMAW/FCAW	3	____	_____
WELD230	Gas Tungsten Arc Welding	3	____	_____
WELD 240	PIPE Welding	3	____	_____
WELD 270	Practical Applications	3	____	_____

Electives: (3 semester hours)
_____ ____ _____ ____ ____ _____
_____ ____ _____ ____ ____ _____

<u>TOTAL:</u> ~~64~~ 65 Semester Hours

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

Students in Welding may be required to purchase approximately $500.00 in tools and personal safety welding equipment. This does not include required textbooks. These costs may vary with student need and brand or

quality of tools or equipment purchased. All safety glasses must meet the minimum industry safety standard of Z-87 with side shields. CMU / WCCC has lockers with required tools available for rent at $ 50.00 per semester.

SUGGESTED COURSE SEQUENCING FOR THE ASSOCIATE OF APPLIED SCIENCE WITH A MAJOR IN MANUFACTURING TECHNOLOGY – EMPHASIS IN WELDING 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.

First Semester		Hours
CADT101	Introduction to Computers	1
MAMT 101	Intro to Manufacturing	2
MAMT 105	Print Reading/Sketching	2
WELD 110	Shielded Metal Arc Welding	3
WELD 117	Oxy/Fuel and Plasma Arc Cutting	3
WELD 133	Metal Fabrication Methods	3
WELD 144	Welding Business Operations	3
		17

Second Semester		Hours
CADT 108	Computer Aided Design- Mechanical	3
MAMT 160260	Properties of Materials - 23	
MATH 107	Career Mathematics **OR**	
MATH 113	College Algebra	3
WELD 211	GMAW/FCAW	3
WELD 230	Gas TungstenArcWelding	3
WELD 240	PIPE Welding	3
		1718

Third Semester		Hours
ENGL 111	English Composition	3
KINE 100	Health and Wellness 11	
KINA 1xx	Activity	1
MAMT 115	Intro to Machine Shop	3
MAMT 150	Introduction to Numerical Control	1
TSTG150	Fluid Power	3
General Education Soc/Beh Sci., Humanities, Speech		3
		15

Fourth Semester		Hours
ENGL 112	English Composition___—or SPCH 101/102	3
TSTG 220	Industry Employment Practices **OR**	
TSTG120	Industrial Safety Practice	3
WELD 270	Practical Applications	3
General Education Soc/Beh Sci., Humanities, Speech Electives		3
	3	
		15

6465

POLICIES:
1. It is your responsibility to determine whether you have met the requirements for your degree. Please see the catalog for a complete list of graduation requirements.
2. 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. 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.**
4. Your advisor will sign and forward the Program Sheet and Graduation Planning Sheet to the Department Head for signature.
5. Finally, the WCCC Director or the department administrative assistant will take the signed forms to the Registrar's Office. (Students cannot handle the forms once the advisor signs.)
6. 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.
7. NOTE: The semester before graduation, you may be required to take a Major Field Achievement Test (exit exam).

DEPARTMENT WORKSHEET FOR PROGRAM ADDITION OR CHANGE
Colorado Mesa University Curriculum Committees

NOTE: All related course changes must be submitted on separate forms.

DEPARTMENT NAME: **WCCC: Manufacturing and Industrial Services**
        If new department, please enter name:

Proposal Type: **Program Modification**

PROGRAM: Degree type: **AAS**   Program/degree Name: **Mechanical Engineering Technology**
                                        Concentration/Emphasis: **Mechanical Engineering Technology**

Effective Term: **Fall**   Effective Academic Year: **2015-16**

If the proposal is to add a program, enter the required information into each text box below.

If the proposal is to modify a program, enter the applicable information into each text box below. If a text box is not applicable, type "N/A".

If the proposal is to delete, deactivate, or reactivate a program, use the Interdepartmental Change Worksheet.

Required information for each proposal for a program addition:
(see Section IV.F.C of Curriculum Manual)

a. Identifying information (see above)

b. Demonstration of compliance with CMU requirements related to student learning outcomes (SLOs):
        1) Identify program student learning outcomes (SLOs)
        2) Identify linkage of program SLOs to institutional SLOs
        3) Illustrate relationship of SLOs to proposed curriculum using curriculum map format
        4) Identify planned assessments for the program SLO.

c. Program goals as they pertain to Colorado Mesa University's goals and objectives and Colorado Mesa University's Role and Mission.

N/A

d. Program strengths, special features, innovations, and/or unique elements.

N/A

e. External agencies, such as program accreditations, professional associations, as well as licensing requirements that have helped shape the program's curriculum (i.e., effects such as length of the program, on program content or mode of delivery, etc.). Do faculty members anticipate seeking program accreditation at appropriate date?

N/A

f. Program admissions requirements (if any beyond admission to institution).

N/A

g. Rationale and justification for the program demonstrating the demand, as evidenced by:
    (1) Employer need/demand as demonstrated by evidence such as:
        (a) identification of several potential employers of program graduates;
        (b) projected regional and/or statewide need for graduates from current labor market analyses and/or future
        workforce projections/studies (potential source: www.occsupplydemand.org/)
        (c) surveys made by external agencies;
        (d) letters of direct employer support may be used. Include letters indicating the availability of positions for
        graduates of the proposed programs, signed by individual in a senior position of authority.Page 27 of 41
    (2) Student demand as demonstrated by evidence such as surveys of potential students to answer the question: "what
    is the student population served by program implementation?"

N/A

h. Relationship of the proposed program to existing programs on campus and to similar programs within the state, with a rationale reflecting that proposed program demand cannot be met by another program (i.e., program implementation is not an unnecessary duplication).

N/A

i. Curriculum, including identification of new courses and the numbers, names, and sequencing of all courses, as well as demonstration of compliance with CMU's Credit Hour Policy as required by the U.S. Department of Education and articulated by the Higher Learning Commission;

N/A

j. List of faculty and their qualifications. (Is there a need for additional faculty?)

N/A

k. Description of learning resources needed for implementation. Scope and quality of library holdings, laboratories, clinical facilities, and technological support as applicable. Department's recommendations for additions to the Library's collection.

N/A

l. Intended delivery mode for program. For programs delivering any of its coursework via 1) alternative formats, 2) outsourcing, and/or 3) a consortial relationship, the program proposal must demonstrate compliance with requirements as specified by the U.S. Department of Education and articulated in the Higher Learning Commission's policies. To demonstrate this compliance, the proposing department must submit a statement from the VPAA's office.

N/A

m. For Professional, Technical or Other Programs, the justification must include:
    (1) Rationale for program to be in the PTO category.
    (2) Statement as to how the curriculum aligns to the requirements or recommendations of the nationally recognized
    accrediting, licensing, certifying or professional organization.
    (3) Rationale for the program to exceed 60 credit hours, if applicable.

(4) Rationale for prescribing General Education courses, if applicable.

(5) Rationale for prescribing Applied Studies courses, if applicable.

(6) Explanation as to how a transfer student with an AA degree in the discipline of that program can graduate by completing only an additional 60 hours.

N/A

n. Enrollment Projections, Table 1. (at end of this document)

o. Physical Capacity Estimates, Table 2. (at end of this document)

p. Program Costs – Projected Expense and Revenue Estimates, Table 3. (at end of this document)

Required information for a program modification:

If change to program name, enter new name: **N/A**

If change to the concentration/emphasis, enter: **N/A**

Is there a revision to the program sheet? **Yes**

In addition to providing all of the above information, also accomplish the following:

1. Discuss the proposal with all departments affected by the program
2. If this proposal is for a program addition, complete the three CDHE tables at the end of this document.
3. If this proposal is for a program addition, submit complete program sheet. If this proposal is for a program modification, submit current program sheet marked up with all proposed changes.
4. Submit this completed form to the Library's Curriculum Committee representative a week prior to the published proposal submission deadline.
5. Obtain departmental approval according to department-specific procedures.

* The most up-to-date program sheets are available as Word documents at R:\Curriculum\Program Sheets for Curriculum Program Modifications.

PROPOSED AND PREPARED BY:

Name: **William J. McCracken Jr.** Date: **10/1/2014**

Email: **wimccrac@coloradomesa.edu** Phone: **970.248.1666**

REVIEWED BY DEPARTMENT'S CURRICULUM COMMITTEE REPRESENTATIVE:

Name: **Michael Carsten** Date: **12/19/2014**

APPROVED BY DEPARTMENT HEAD:

Name: **Gary Looft** Date: **12/18/14**

APPROVED BY DIRECTOR OF TEACHER EDUCATION (REQUIRED FOR TEACHING PROGRAMS)

Name: Date:

For Graduate Curriculum Committee: submit this form to the GCC Chair.

For Undergraduate Curriculum Committee: submit this form to Academic Affairs via email at UCC_Chair@coloradomesa.edu.

For WCCC Curriculum Committee: submit this form to the WCCC CC Chair.

TABLE 1: ENROLLMENT PROJECTIONS

Name of Program: _____N/A_____

Degree Title   _____

Name of Institution: _____

DEFINITIONS:

      Academic year is the period beginning July 1 and concluding June 30.

      Headcount projections represent an unduplicated count of those students officially admitted to the program and enrolled at the institution during the academic year.

      FTE is defined as the full-time equivalent number of those students majoring in the program, regardless of the classes enrolled, during the academic year.

      Program graduate is defined as a student who finishes all academic program requirements and graduates with a formal award within a particular academic year.

SPECIAL NOTES:

      To calculate the annual headcount enrollment, add new enrollees to the previous year headcount and subtract the number who graduated in the preceding year. Adjust by the anticipated attrition rate.

      To calculate FTE, multiply the number of students times the projected number of credit hours degree seeking students will be typically enrolled in per year and divide by 30.

      The data in each column is the annual **unduplicated** number of declared program majors. Since this table documents program demand, course enrollments are not relevant and shall not be included in the headcount or FTE data.

		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Full Implementation
1-a	In-state Headcount						
1-b	Out-of-State Headcount						
2	Program Headcount						
3-a	In-state FTE						
3-b	Out-of-State FTE						
4	Program FTE						
5	Program Graduates						

_____   _____
Signature of Governing Board Officer   Date

TABLE 2: PHYSICAL CAPACITY ESTIMATES

Name of Program: _____N/A_____

Name of Institution: _____

Purpose: This table documents the physical capacity of the institution to offer the program and/or the plan for achieving the capacity. Complete A or B.

Part A

I certify that this proposed degree program can be fully implemented and accommodate the enrollment projections provided in this proposal without requiring additional space or renovating existing space during the first five years.

_____   _____
Governing Board Capital Construction Officer   Date

Part B

	Column 1	Column 2	Column 3		Column 4		Column 5	Column 6
ASSIGNABLE SQUARE FEET	TOTAL NEEDED	AVAILABLE	RENOVATION		NEW CONSTRUCTION		LEASE/ RENT	REVENUE SOURCE*
TYPE OF SPACE			Immed	Future	Immed	Future		
Classroom								
Instructional Lab								
Offices								
Study								
Special/ General Use								
Other								
TOTAL								

* Capital Construction Fund (CCF), Research Building Revolving Fund (RBRF), Gift (GIFT), Grant (GR), Auxiliary Fund (AUX)

Attach a narrative describing the institutional contingency plan that addresses the space requirements of the proposed program or alternative delivery options, in the event that the request for capital construction or renovation is not approved.

_____   _____
Governing Board Capital Construction Officer   Date

Approved Policy   I-B-10   June 5, 2003

TABLE 3 – PROJECTED EXPENSE AND REVENUE ESTIMATES

All cost and revenue projections should be in constant dollars (do not include an inflation factor).

	ESTIMATED AMOUNT IN DOLLARS (PV)				
	Year 1	Year 2	Year 3	Year 4	Year 5
Operating Expenses:					
1 Faculty					
2 Financial Aid specific to program					
3 Instructional Materials					
4 Program Administration					
5 Rent/Lease					
6 Other Operating Costs					
7 Total Operating Expenses					
Program Start-Up Expenses					
8 Capital Construction					
9 Equipment Acquisitions					
10 Library Acquisitions					
11 Total Program Start-Up Exp.					
TOTAL PROGRAM EXPENSES					
Enrollment Revenue					
12 General Fund: State Support					
13 Cash Revenue: Tuition					
14 Cash Revenue: Fees					
Other Revenue					
15 Federal Grants					
16 Corporate Grants/Donations					
17 Other fund sources *					
18 Institutional Reallocation **					
TOTAL PROGRAM REVENUE					

** If revenues are projected in this line, please attach an explanation of the specific source of the funds. If reallocated, the specific departments and the impact the dollars will have on the departments that will provide the reallocated dollars.

_____   _____   _____
Signature of Governing Board Financial Officer   Title   Date

COLORADO MESA
U N I V E R S I T Y

2014~~2015~~-~~2015~~ 2016 PETITION/PROGRAM SHEET
Degree: Associate of Applied Science
Major: Mechanical Engineering Technology

About This Major . . .

The objective of the Associate of Applied Science (AAS) in Mechanical Engineering Technology (MET) is to provide the knowledge necessary to design and build products and systems to meet the current and future needs of society. The mission of this applied engineering technology program is to provide graduates the skills and knowledge for a successful transition to either a career as a mechanical engineering technician or to continue in the Bachelor of Science (BS) program in MET.

The AAS in MET is designed for a student who is a doer or implementer - one who is able to apply mathematics, the natural and engineering sciences, engineering principals, and current engineering practices to the solution of design problems and to the operation and testing of mechanical systems. Laboratory courses are an integral component of the MET program and are designed to develop student competence to apply experimental design methods, as well as provide a "hands-on" approach to designing and building products and systems.

For more information on what you can do with this major, go to http://www.coloradomesa.edu/career/whatmajor.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. Apply the knowledge, techniques, skills, and modern tools of engineering to engineering problems.
    (Critical Thinking/Applied Learning)
2. Apply knowledge of mathematics, science, and technology to engineering problems. (Quantitative Fluency)
3. Effectively use oral, written, and graphical communication skills to address both technical and non-technical audiences.
    (Communication Fluency)
4. Apply the ethical standards of the discipline to engineering problems. (~~Specialized Knowledge~~~~Ethics~~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.

_____ _____20_____
Signature of Advisor   Date

_____ _____20_____
Signature of Department Head   Date

_____ _____20_____
Signature of Registrar   Date

Students should work closely with a faculty advisor when selecting and scheduling courses prior to registration.

Degree Requirements:
- 62 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
- A grade of "C" or higher must be achieved in achieved in coursework toward major content area.
- Pre-collegiate courses (usually numbered below 100) cannot be used for graduation.
- Program sheets are for advising purposes only. Because a program may have requirements specific to the degree, check with your advisor for additional guidelines, including prerequisites, grade point averages, grades, exit examinations, and other expectations. It is the student's responsibility to be aware of, and follow, all guidelines for the degree being pursued. Any exceptions or substitutions must be approved by the faculty advisor and/or Department Head. Courses related to teacher licensure must also be approved by the Teacher Education Dept.
- When filling out the program sheet a course can be used only once.
- See the "Undergraduate Graduation Requirements" in the catalog for additional graduation information.

GENERAL EDUCATION 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 general education 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 general education requirement.

Course No Title	Sem.hrs	Grade	Term

Communication (6 semester hours)
ENGL 111 English Composition	3	_____	_____
ENGL 112 English Composition	3	_____	_____

*****Math: MATH 119** (Minimum 3 semester hours)
MATH 119 Pre-Calculus	5	_____	_____

*3 credits apply to the General Ed requirements and 2 credit applies to Course Requirements

Social and Behavioral Sciences (3 semester hours)
SOCI 120 Technology and Society	3	_____	_____

History (3 semester hours)

Course No Title	Sem.hrs	Grade	Term
_____ ____ _____	3	_____	_____

OTHER LOWER DIVISION REQUIREMENTS
Wellness (2 semester hours)
KINE 100 Health and Wellness	1	_____	_____
KINA 1____ _____	1	_____	_____

ASSOCIATE OF APPLIED SCIENCE: COURSE REQUIREMENTS
(43 45 semester hours)

CHEM 121	General Chemistry	4	_____	_____
CHEM 121L	General Chemistry Lab	1	_____	_____
Or				
CHEM 131	General Chemistry	4	_____	_____
CHEM 131L	General Chemistry Lab	1	_____	_____
CSCI 130	Intro to Engr. Computing	3	_____	_____
PHYS 111	Fundamental Mechanics	4	_____	_____
PHYS 111L	Fundamental Mechanics Lab	1	_____	_____
Or				
PHYS 131	Fundamental Mechanics	4	_____	_____
PHYS 131L	Fundamental Mechanics Lab	1	_____	_____
ENGR 101	Introduction to Engineering	1	_____	_____
ENGR 125	CAD and Fabrication	3	_____	_____
ENGR 140	First-Year Engr. Projects	3	_____	_____
ENGR 261	Statics and Structures	3	_____	_____
MAMT 115	Intro to Machine Shop	3	_____	_____
MAMT 151 251	Numerical Control CNC Machining Mach I	3	_____	_____
MAMT 155 255	Numerical Control Mach CNC Machining II	3	_____	_____
MATH 135	Engineering Calculus I	4	_____	_____
MATH 136	Engineering Calculus II	4	_____	_____
WELD 151	Industrial Welding	3	_____	_____

*MATH 119   Pre-Calculus   2 _____ _____

SUGGESTED COURSE SEQUENCING FOR THE ASSOCIATE OF APPLIED SCIENCE WITH A MAJOR IN MECHANICAL ENGINEERING 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.

FRESHMAN YEAR

Fall Semester		Hours
ENGR 101	Intro to Engineering	1
MATH 119	Pre-	5
Calculus	5	
	5	
ENGL 111	English Composition	3
ENGR 125	CAD and Fabrication	3
KINE 100	Health and Wellness	1
General Education History		3
		16

Spring Semester		Hours
MATH 135	Engineering Calculus I	4
ENGL 112	English Composition	3
ENGR 140	First-Year Engr. Projects	3
MAMT 115	Intro to Machine Shop	3
WELD 151	Industrial Welding	3
		16

SOPHOMORE YEAR

Fall Semester		Hours
MATH 136	Engineering Calculus II	4
PHYS 131or 111	Fundamental Mechanics	4
PHYS 131L or 111L	Fundamental Mech Lab	1
CHEM 121 or 131	General Chemistry	4
CHEM 121L or 131L	General Chemistry Lab	1
		14
CSCI 130	Intro to Engr Computing	3

Spring Semester		Hours
MAMT ~~151~~251 CNC Machining ~~Numerical Controls Mach~~ I (1st mod)		3
MAMT ~~155~~255 CNC Machining ~~Numerical Controls~~ Mach II (2nd mod)		3
ENGR 261	Statics and Structures	3
KINA 1**	Activity	1
SOCI 120	Technology and Society	3
		16

POLICIES:
1. It is your responsibility to determine whether you have met the requirements for your degree. Please see the catalog for a complete list of graduation requirements.
2. 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. 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.**

4. Your advisor will sign and forward the Program Sheet and Graduation Planning Sheet to the department head for signature.
5. Finally, the department head or the department administrative assistant will take the signed forms to the Registrar's Office. (Students cannot handle the forms once the advisor signs.)
6. 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.

DEPARTMENT WORKSHEET FOR PROGRAM ADDITION OR CHANGE
Colorado Mesa University Curriculum Committees

NOTE: All related course changes must be submitted on separate forms.

DEPARTMENT NAME: **WCCC: Manufacturing and Industrial Services**
        If new department, please enter name:

Proposal Type: **Program Modification**

PROGRAM: Degree type: **CERT**   Program/degree Name: **Welding Technology**
                                          Concentration/Emphasis: **Basic Welder**

Effective Term: **Fall**   Effective Academic Year: **2015-16**

If the proposal is to add a program, enter the required information into each text box below.

If the proposal is to modify a program, enter the applicable information into each text box below. If a text box is not applicable, type "N/A".

If the proposal is to delete, deactivate, or reactivate a program, use the Interdepartmental Change Worksheet.

Required information for each proposal for a program addition:
(see Section IV.F.C of Curriculum Manual)

a. Identifying information (see above)

b. Demonstration of compliance with CMU requirements related to student learning outcomes (SLOs):
        1) Identify program student learning outcomes (SLOs)
        2) Identify linkage of program SLOs to institutional SLOs
        3) Illustrate relationship of SLOs to proposed curriculum using curriculum map format
        4) Identify planned assessments for the program SLO.

c. Program goals as they pertain to Colorado Mesa University's goals and objectives and Colorado Mesa University's Role and Mission.

N/A

d. Program strengths, special features, innovations, and/or unique elements.

N/A

e. External agencies, such as program accreditations, professional associations, as well as licensing requirements that have helped shape the program's curriculum (i.e., effects such as length of the program, on program content or mode of delivery, etc.). Do faculty members anticipate seeking program accreditation at appropriate date?

N/A

f. Program admissions requirements (if any beyond admission to institution).

N/A

g. Rationale and justification for the program demonstrating the demand, as evidenced by:
    (1) Employer need/demand as demonstrated by evidence such as:
        (a) identification of several potential employers of program graduates;
        (b) projected regional and/or statewide need for graduates from current labor market analyses and/or future
        workforce projections/studies (potential source: www.occsupplydemand.org/)
        (c) surveys made by external agencies;
        (d) letters of direct employer support may be used. Include letters indicating the availability of positions for
        graduates of the proposed programs, signed by individual in a senior position of authority.Page 27 of 41
    (2) Student demand as demonstrated by evidence such as surveys of potential students to answer the question: "what
    is the student population served by program implementation?"

N/A

h. Relationship of the proposed program to existing programs on campus and to similar programs within the state, with a rationale reflecting that proposed program demand cannot be met by another program (i.e., program implementation is not an unnecessary duplication).

N/A

i. Curriculum, including identification of new courses and the numbers, names, and sequencing of all courses, as well as demonstration of compliance with CMU's Credit Hour Policy as required by the U.S. Department of Education and articulated by the Higher Learning Commission;

N/A

j. List of faculty and their qualifications. (Is there a need for additional faculty?)

N/A

k. Description of learning resources needed for implementation. Scope and quality of library holdings, laboratories, clinical facilities, and technological support as applicable. Department's recommendations for additions to the Library's collection.

N/A

l. Intended delivery mode for program. For programs delivering any of its coursework via 1) alternative formats, 2) outsourcing, and/or 3) a consortial relationship, the program proposal must demonstrate compliance with requirements as specified by the U.S. Department of Education and articulated in the Higher Learning Commission's policies. To demonstrate this compliance, the proposing department must submit a statement from the VPAA's office.

N/A

m. For Professional, Technical or Other Programs, the justification must include:
    (1) Rationale for program to be in the PTO category.
    (2) Statement as to how the curriculum aligns to the requirements or recommendations of the nationally recognized
    accrediting, licensing, certifying or professional organization.
    (3) Rationale for the program to exceed 60 credit hours, if applicable.

(4) Rationale for prescribing General Education courses, if applicable.
(5) Rationale for prescribing Applied Studies courses, if applicable.
(6) Explanation as to how a transfer student with an AA degree in the discipline of that program can graduate by completing only an additional 60 hours.

N/A

n. Enrollment Projections, Table 1. (at end of this document)

o. Physical Capacity Estimates, Table 2. (at end of this document)

p. Program Costs – Projected Expense and Revenue Estimates, Table 3. (at end of this document)

Required information for a program modification:
  If change to program name, enter new name: **N/A**
  If change to the concentration/emphasis, enter: **N/A**
  Is there a revision to the program sheet? **Yes**

In addition to providing all of the above information, also accomplish the following:

1. Discuss the proposal with all departments affected by the program
2. If this proposal is for a program addition, complete the three CDHE tables at the end of this document.
3. If this proposal is for a program addition, submit complete program sheet. If this proposal is for a program modification, submit current program sheet marked up with all proposed changes.
4. Submit this completed form to the Library's Curriculum Committee representative a week prior to the published proposal submission deadline.
5. Obtain departmental approval according to department-specific procedures.

* The most up-to-date program sheets are available as Word documents at R:\Curriculum\Program Sheets for Curriculum Program Modifications.

PROPOSED AND PREPARED BY:
Name: **William J. McCracken Jr.**   Date: **10/1/2014**
Email: **wimccrac@coloradomesa.edu**   Phone: **970.248.1666**

REVIEWED BY DEPARTMENT'S CURRICULUM COMMITTEE REPRESENTATIVE:
Name: **Michael Carsten**   Date: **12/19/2014**

APPROVED BY DEPARTMENT HEAD:
Name: **Gary Looft**   Date: **12/18/14**

APPROVED BY DIRECTOR OF TEACHER EDUCATION (REQUIRED FOR TEACHING PROGRAMS)
Name: Date:

For Graduate Curriculum Committee: submit this form to the GCC Chair.

For Undergraduate Curriculum Committee: submit this form to Academic Affairs via email at UCC_Chair@coloradomesa.edu.

For WCCC Curriculum Committee: submit this form to the WCCC CC Chair.

TABLE 1: ENROLLMENT PROJECTIONS

Name of Program: ____N/A_____

Degree Title   _____

Name of Institution: _____

DEFINITIONS:

       Academic year is the period beginning July 1 and concluding June 30.

       Headcount projections represent an unduplicated count of those students officially admitted to the program and enrolled at the institution during the academic year.

       FTE is defined as the full-time equivalent number of those students majoring in the program, regardless of the classes enrolled, during the academic year.

       Program graduate is defined as a student who finishes all academic program requirements and graduates with a formal award within a particular academic year.

SPECIAL NOTES:

       To calculate the annual headcount enrollment, add new enrollees to the previous year headcount and subtract the number who graduated in the preceding year. Adjust by the anticipated attrition rate.

       To calculate FTE, multiply the number of students times the projected number of credit hours degree seeking students will be typically enrolled in per year and divide by 30.

       The data in each column is the annual **unduplicated** number of declared program majors. Since this table documents program demand, course enrollments are not relevant and shall not be included in the headcount or FTE data.

		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Full Implementation
1-a	In-state Headcount						
1-b	Out-of-State Headcount						
2	Program Headcount						
3-a	In-state FTE						
3-b	Out-of-State FTE						
4	Program FTE						
5	Program Graduates						

_____   _____
Signature of Governing Board Officer   Date

TABLE 2: PHYSICAL CAPACITY ESTIMATES

Name of Program: _____N/A_____

Name of Institution: _____

Purpose: This table documents the physical capacity of the institution to offer the program and/or the plan for achieving the capacity. Complete A or B.

Part A

I certify that this proposed degree program can be fully implemented and accommodate the enrollment projections provided in this proposal without requiring additional space or renovating existing space during the first five years.

_____   _____
Governing Board Capital Construction Officer   Date

Part B

	Column 1	Column 2	Column 3		Column 4		Column 5	Column 6
ASSIGNABLE SQUARE FEET	TOTAL NEEDED	AVAILABLE	RENOVATION		NEW CONSTRUCTION		LEASE/ RENT	REVENUE SOURCE*
TYPE OF SPACE			Immed	Future	Immed	Future		
Classroom								
Instructional Lab								
Offices								
Study								
Special/ General Use								
Other								
TOTAL								

* Capital Construction Fund (CCF), Research Building Revolving Fund (RBRF), Gift (GIFT), Grant (GR), Auxiliary Fund (AUX)

Attach a narrative describing the institutional contingency plan that addresses the space requirements of the proposed program or alternative delivery options, in the event that the request for capital construction or renovation is not approved.

_____   _____
Governing Board Capital Construction Officer   Date

Approved Policy   I-B-10   June 5, 2003

TABLE 3 – PROJECTED EXPENSE AND REVENUE ESTIMATES

All cost and revenue projections should be in constant dollars (do not include an inflation factor).

	ESTIMATED AMOUNT IN DOLLARS (PV)				
	Year 1	Year 2	Year 3	Year 4	Year 5
Operating Expenses:					
1 Faculty					
2 Financial Aid specific to program					
3 Instructional Materials					
4 Program Administration					
5 Rent/Lease					
6 Other Operating Costs					
7 Total Operating Expenses					
Program Start-Up Expenses					
8 Capital Construction					
9 Equipment Acquisitions					
10 Library Acquisitions					
11 Total Program Start-Up Exp.					
TOTAL PROGRAM EXPENSES					
Enrollment Revenue					
12 General Fund: State Support					
13 Cash Revenue: Tuition					
14 Cash Revenue: Fees					
Other Revenue					
15 Federal Grants					
16 Corporate Grants/Donations					
17 Other fund sources *					
18 Institutional Reallocation **					
TOTAL PROGRAM REVENUE					

** If revenues are projected in this line, please attach an explanation of the specific source of the funds. If reallocated, the specific departments and the impact the dollars will have on the departments that will provide the reallocated dollars.

_____   _____   _____
Signature of Governing Board Financial Officer   Title   Date

2014-2015 2015-2016 PETITION/PROGRAM SHEET
Award: Technical Certificate
Program of Study: Manufacturing Technology Cluster
Specialization: Basic Welder

About This Certificate . . .

This Basic Welder program is designed to provide training and opportunity to become proficient at SMAW, ~~GWAW~~GMAW, FCAW, OAW, OAC, PAC, on plate and SMAW on pipe. This program offers classroom lecture and related lab work. Welding, cutting, layout, safety, attitude and quality of workmanship are stressed throughout this program. The Basic Welding certificate prepares students for welding helper-apprentice position in the welding industry and is designed to meet competency based standards set by the American Welding Society. This program prepares students to become certified AWS, API, ASME certified welders in the welding industry upon successful completion of the appropriate test standard.

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

All CMU certificate 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. Apply business communication using listening, verbal and written forms that are needed for entry level employment in the industry. (Communication Fluency)
2. Apply Mathematical concepts to meet entry level employment requirements. (Quantitative Fluency)
3. Research, evaluate, synthesize and apply information/data relevant to the industry. (Critical Thinking)
4. Demonstrate knowledge of welding terminology, symbols, business practices, principles and application of associated technical Skills (Specialized Knowledge/Applied Learning)
5. Perform the necessary applied welding skill sets to fulfill the needs of entry level employment. (Applied Learning)
6. Demonstrate ethical and civic responsibility necessary for employees in the industry. (~~Specialized Knowledge~~Specialized Knowledge~~Ethics~~)

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.

_____   _____20_____
Signature of Advisor   Date

_____   _____20_____
Signature of the Department Head   Date

_____   _____20_____
Signature of Registrar   Date

The formatting note in margin

Formatted: Left, Tab stops: Not at 5" + 6.75" + 7.5"

Technical Certificate: Manufacturing Technology-Basic Welder   2014-2015 2015-2016 Program Sheet, Page 1 of 2
Posted: June 2014

Students should work closely with a faculty advisor when selecting and scheduling courses prior to registration.

Degree Requirements:
- ~~16~~ 17 semester hours total .
- 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.
- Program sheets are for advising purposes only. Because a program may have requirements specific to the degree, check with your advisor for additional guidelines, including prerequisites, grade point averages, grades, exit examinations, and other expectations. It is the student's responsibility to be aware of, and follow, all guidelines for the degree being pursued. Any exceptions or substitutions must be approved by the faculty advisor and/or Department Head. Courses related to teacher licensure must also be approved by the Teacher Education Dept.
- When filling out the program sheet a course can be used only once.
- See the "Undergraduate Graduation Requirements" in the catalog for additional graduation information.

TECHNICAL CERTIFICATE: Basic Welder
(~~16~~ 17 semester hours)

Course No	Title	Sem.hrs	Grade	Term

Core Classes

Course No	Title	Sem.hrs	Grade	Term
MAMT 105	Print Reading/Sketching	2	_____	_____
WELD 110	Shielded Metal Arc Welding	3	_____	_____
WELD 117	Oxy/Fuel & Plasma Cutting	3	_____	_____
WELD 211	GMAW-FCAW	3	_____	_____
WELD 240	Pipe Welding	3	_____	_____
MAMT ~~160~~260	Properties of Materials	~~2~~3	_____	_____
		~~16~~17		

POLICIES:
1. It is your responsibility to determine whether you have met the requirements for your degree. Please see the catalog for a complete list of graduation requirements.
2. 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. 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.**
4. Your advisor will sign and forward the Program Sheet and Graduation Planning Sheet to the Department Head for signature.
5. Finally, the Department Head or the department administrative assistant will take the signed forms to the Registrar's Office. (Students cannot handle the forms once the advisor signs.)
6. 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.
7. NOTE: The semester before graduation, you may be required to take a Major Field Achievement Test (exit exam).

COLORADO MESA UNIVERSITY

DEPARTMENT WORKSHEET FOR PROGRAM ADDITION OR CHANGE
Colorado Mesa University Curriculum Committees

NOTE: All related course changes must be submitted on separate forms.

DEPARTMENT NAME: **WCCC: Manufacturing and Industrial Services**
   If new department, please enter name:

Proposal Type: **Program Modification**

PROGRAM: Degree type: **CERT**   Program/degree Name: **Manufacturing Technology**
                                   Concentration/Emphasis: **CAD/CAM**

Effective Term: **Fall**   Effective Academic Year: **2015-16**

If the proposal is to add a program, enter the required information into each text box below.

If the proposal is to modify a program, enter the applicable information into each text box below. If a text box is not applicable, type "N/A".

If the proposal is to delete, deactivate, or reactivate a program, use the Interdepartmental Change Worksheet.

Required information for each proposal for a program addition:
(see Section IV.F.C of Curriculum Manual)

a. Identifying information (see above)

b. Demonstration of compliance with CMU requirements related to student learning outcomes (SLOs):
   1) Identify program student learning outcomes (SLOs)
   2) Identify linkage of program SLOs to institutional SLOs
   3) Illustrate relationship of SLOs to proposed curriculum using curriculum map format
   4) Identify planned assessments for the program SLO.

c. Program goals as they pertain to Colorado Mesa University's goals and objectives and Colorado Mesa University's Role and Mission.

N/A

d. Program strengths, special features, innovations, and/or unique elements.

N/A

e. External agencies, such as program accreditations, professional associations, as well as licensing requirements that have helped shape the program's curriculum (i.e., effects such as length of the program, on program content or mode of delivery, etc.). Do faculty members anticipate seeking program accreditation at appropriate date?

N/A

f. Program admissions requirements (if any beyond admission to institution).

N/A

g. Rationale and justification for the program demonstrating the demand, as evidenced by:
    (1) Employer need/demand as demonstrated by evidence such as:
        (a) identification of several potential employers of program graduates;
        (b) projected regional and/or statewide need for graduates from current labor market analyses and/or future
        workforce projections/studies (potential source: www.occsupplydemand.org/)
        (c) surveys made by external agencies;
        (d) letters of direct employer support may be used. Include letters indicating the availability of positions for
        graduates of the proposed programs, signed by individual in a senior position of authority.Page 27 of 41
    (2) Student demand as demonstrated by evidence such as surveys of potential students to answer the question: "what
    is the student population served by program implementation?"

N/A

h. Relationship of the proposed program to existing programs on campus and to similar programs within the state, with a rationale reflecting that proposed program demand cannot be met by another program (i.e., program implementation is not an unnecessary duplication).

N/A

i. Curriculum, including identification of new courses and the numbers, names, and sequencing of all courses, as well as demonstration of compliance with CMU's Credit Hour Policy as required by the U.S. Department of Education and articulated by the Higher Learning Commission;

N/A

j. List of faculty and their qualifications. (Is there a need for additional faculty?)

N/A

k. Description of learning resources needed for implementation. Scope and quality of library holdings, laboratories, clinical facilities, and technological support as applicable. Department's recommendations for additions to the Library's collection.

N/A

l. Intended delivery mode for program. For programs delivering any of its coursework via 1) alternative formats, 2) outsourcing, and/or 3) a consortial relationship, the program proposal must demonstrate compliance with requirements as specified by the U.S. Department of Education and articulated in the Higher Learning Commission's policies. To demonstrate this compliance, the proposing department must submit a statement from the VPAA's office.

N/A

m. For Professional, Technical or Other Programs, the justification must include:
    (1) Rationale for program to be in the PTO category.
    (2) Statement as to how the curriculum aligns to the requirements or recommendations of the nationally recognized
    accrediting, licensing, certifying or professional organization.
    (3) Rationale for the program to exceed 60 credit hours, if applicable.

(4) Rationale for prescribing General Education courses, if applicable.

(5) Rationale for prescribing Applied Studies courses, if applicable.

(6) Explanation as to how a transfer student with an AA degree in the discipline of that program can graduate by completing only an additional 60 hours.

N/A

n. Enrollment Projections, Table 1. (at end of this document)

o. Physical Capacity Estimates, Table 2. (at end of this document)

p. Program Costs – Projected Expense and Revenue Estimates, Table 3. (at end of this document)

Required information for a program modification:
      If change to program name, enter new name: **N/A**
      If change to the concentration/emphasis, enter: **N/A**
      Is there a revision to the program sheet? **Yes**

In addition to providing all of the above information, also accomplish the following:

1. Discuss the proposal with all departments affected by the program
2. If this proposal is for a program addition, complete the three CDHE tables at the end of this document.
3. If this proposal is for a program addition, submit complete program sheet. If this proposal is for a program modification, submit current program sheet marked up with all proposed changes.
4. Submit this completed form to the Library's Curriculum Committee representative a week prior to the published proposal submission deadline.
5. Obtain departmental approval according to department-specific procedures.

* The most up-to-date program sheets are available as Word documents at R:\Curriculum\Program Sheets for Curriculum Program Modifications.

PROPOSED AND PREPARED BY:
Name: **William J. McCracken Jr.**   Date: **10/1/2014**
Email: **wimccrac@coloradomesa.edu**   Phone: **970.248.1666**

REVIEWED BY DEPARTMENT'S CURRICULUM COMMITTEE REPRESENTATIVE:
Name: **Michael Carsten**   Date: **12/19/2014**

APPROVED BY DEPARTMENT HEAD:
Name: **Gary Looft**   Date: **12/18/14**

APPROVED BY DIRECTOR OF TEACHER EDUCATION (REQUIRED FOR TEACHING PROGRAMS)
Name: Date:

For Graduate Curriculum Committee: submit this form to the GCC Chair.

For Undergraduate Curriculum Committee: submit this form to Academic Affairs via email at UCC_Chair@coloradomesa.edu.

For WCCC Curriculum Committee: submit this form to the WCCC CC Chair.

TABLE 1: ENROLLMENT PROJECTIONS

Name of Program: ____N/A_____

Degree Title   _____

Name of Institution: _____

DEFINITIONS:

       Academic year is the period beginning July 1 and concluding June 30.

       Headcount projections represent an unduplicated count of those students officially admitted to the program and enrolled at the institution during the academic year.

       FTE is defined as the full-time equivalent number of those students majoring in the program, regardless of the classes enrolled, during the academic year.

       Program graduate is defined as a student who finishes all academic program requirements and graduates with a formal award within a particular academic year.

SPECIAL NOTES:

       To calculate the annual headcount enrollment, add new enrollees to the previous year headcount and subtract the number who graduated in the preceding year. Adjust by the anticipated attrition rate.

       To calculate FTE, multiply the number of students times the projected number of credit hours degree seeking students will be typically enrolled in per year and divide by 30.

       The data in each column is the annual **unduplicated** number of declared program majors. Since this table documents program demand, course enrollments are not relevant and shall not be included in the headcount or FTE data.

		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Full Implementation
1-a	In-state Headcount						
1-b	Out-of-State Headcount						
2	Program Headcount						
3-a	In-state FTE						
3-b	Out-of-State FTE						
4	Program FTE						
5	Program Graduates						

_____   _____
Signature of Governing Board Officer   Date

TABLE 2: PHYSICAL CAPACITY ESTIMATES

Name of Program: _____N/A_____

Name of Institution: _____

Purpose: This table documents the physical capacity of the institution to offer the program and/or
                the plan for achieving the capacity. Complete A or B.

Part A

I certify that this proposed degree program can be fully implemented and accommodate the enrollment
projections provided in this proposal without requiring additional space or renovating existing space
during the first five years.

_____   _____
Governing Board Capital Construction Officer   Date

Part B

ASSIGNABLE SQUARE FEET	Column 1 TOTAL NEEDED	Column 2 AVAILABLE	Column 3 RENOVATION		Column 4 NEW CONSTRUCTION		Column 5 LEASE/ RENT	Column 6 REVENUE SOURCE*
TYPE OF SPACE			Immed	Future	Immed	Future		
Classroom								
Instructional Lab								
Offices								
Study								
Special/ General Use								
Other								
TOTAL								

* Capital Construction Fund (CCF), Research Building Revolving Fund (RBRF), Gift (GIFT), Grant (GR), Auxiliary Fund
(AUX)

Attach a narrative describing the institutional contingency plan that addresses the space requirements of the proposed
program or alternative delivery options, in the event that the request for capital construction or renovation is not approved.

_____   _____
Governing Board Capital Construction Officer   Date

Approved Policy   I-B-10   June 5, 2003

TABLE 3 – PROJECTED EXPENSE AND REVENUE ESTIMATES

All cost and revenue projections should be in constant dollars (do not include an inflation factor).

		ESTIMATED AMOUNT IN DOLLARS (PV)				
		Year 1	Year 2	Year 3	Year 4	Year 5
Operating Expenses:						
1	Faculty					
2	Financial Aid specific to program					
3	Instructional Materials					
4	Program Administration					
5	Rent/Lease					
6	Other Operating Costs					
7	Total Operating Expenses					
Program Start-Up Expenses						
8	Capital Construction					
9	Equipment Acquisitions					
10	Library Acquisitions					
11	Total Program Start-Up Exp.					
TOTAL PROGRAM EXPENSES						
Enrollment Revenue						
12	General Fund: State Support					
13	Cash Revenue: Tuition					
14	Cash Revenue: Fees					
Other Revenue						
15	Federal Grants					
16	Corporate Grants/Donations					
17	Other fund sources *					
18	Institutional Reallocation **					
TOTAL PROGRAM REVENUE						

** If revenues are projected in this line, please attach an explanation of the specific source of the funds. If reallocated, the specific departments and the impact the dollars will have on the departments that will provide the reallocated dollars.

_____   _____   _____
Signature of Governing Board Financial Officer   Title   Date

WESTERN COLORADO
COMMUNITY COLLEGE
A Division of Colorado Mesa University

About This Certificate . . .

Through the use of Computer-aided Manufacturing (CAM) and Computer-aided Design (CAD), the student will learn the techniques of basic drafting principles and methods used in today's m~~M~~anufacturing i~~I~~ndustry. Dimensioning, and geometric construction will be explored with CAD/CAM software and transferred to Computer Numerical Controlled (CNC) machines to operate machine tools and related machinery in the manufacturing and design of work pieces.

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

All CMU certificate 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~~Specialized Knowledge~~Ethics~~)

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.

_____   _____20_____
Signature of Advisor   Date

_____   _____20_____
Signature of the Department Head   Date

_____   _____20_____
Signature of Registrar   Date

Students should work closely with a faculty advisor when selecting and scheduling courses prior to registration.

Degree Requirements:

- ~~18~~ 19 semester hours total
- 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.
- Program sheets are for advising purposes only. Because a program may have requirements specific to the degree, check with your advisor for additional guidelines, including prerequisites, grade point averages, grades, exit examinations, and other expectations. It is the student's responsibility to be aware of, and follow, all guidelines for the degree being pursued. Any exceptions or substitutions must be approved by the faculty advisor and/or Department Head. Courses related to teacher licensure must also be approved by the Teacher Education Dept.
- When filling out the program sheet a course can be used only once.
- See the "Undergraduate Graduation Requirements" in the catalog for additional graduation information.

TECHNICAL CERTIFICATE: CAD/CAM

(~~18~~ 19 semester hours)

Course No Title	Sem.hrs	Grade	Term
Core Classes			
MAMT 105 Print Reading/Sketching	2	_____	_____
MAMT 106 Geometric Tolerancing	~~1~~2	_____	_____
~~CADT 108 CAD Mechanical~~ MAMT 115 Intro to Machine Shop	3	_____	_____
MAMT ~~151~~251 Numeric Control Machining I	3	_____	_____
CADT 109 CAD-Mechanical Adv. Or ENGR 125	3	_____	_____
	~~18~~19		

MAMT 148 CNC Applications	3	_____	_____
MAMT ~~155~~255 Numeric Control Machining II 3		_____	_____
19			

POLICIES:

1. It is your responsibility to determine whether you have met the requirements for your degree. Please see the catalog for a complete list of graduation requirements.
2. 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. 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.**
4. Your advisor will sign and forward the Program Sheet and Graduation Planning Sheet to the Department Head for signature.
5. Finally, the Department Head or the department administrative assistant will take the signed forms to the Registrar's Office. (Students cannot handle the forms once the advisor signs.)
6. 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.
7. NOTE: The semester before graduation, you may be required to take a Major Field Achievement Test (exit exam).

COLORADO MESA UNIVERSITY

DEPARTMENT WORKSHEET FOR PROGRAM ADDITION OR CHANGE
Colorado Mesa University Curriculum Committees

NOTE: All related course changes must be submitted on separate forms.

DEPARTMENT NAME: **WCCC: Manufacturing and Industrial Services**
      If new department, please enter name:

Proposal Type: **Program Modification**

PROGRAM: Degree type: **CERT**   Program/degree Name: **Manufacturing Technology**
                                              Concentration/Emphasis: **Machine and Manufacturing Trades**

Effective Term: **Fall**   Effective Academic Year: **2015-16**

If the proposal is to add a program, enter the required information into each text box below.

If the proposal is to modify a program, enter the applicable information into each text box below. If a text box is not applicable, type "N/A".

If the proposal is to delete, deactivate, or reactivate a program, use the Interdepartmental Change Worksheet.

Required information for each proposal for a program addition:
(see Section IV.F.C of Curriculum Manual)

a. Identifying information (see above)

b. Demonstration of compliance with CMU requirements related to student learning outcomes (SLOs):
          1) Identify program student learning outcomes (SLOs)
          2) Identify linkage of program SLOs to institutional SLOs
          3) Illustrate relationship of SLOs to proposed curriculum using curriculum map format
          4) Identify planned assessments for the program SLO.

c. Program goals as they pertain to Colorado Mesa University's goals and objectives and Colorado Mesa University's Role and Mission.

N/A

d. Program strengths, special features, innovations, and/or unique elements.

N/A

e. External agencies, such as program accreditations, professional associations, as well as licensing requirements that have helped shape the program's curriculum (i.e., effects such as length of the program, on program content or mode of delivery, etc.). Do faculty members anticipate seeking program accreditation at appropriate date?

N/A

f. Program admissions requirements (if any beyond admission to institution).

N/A

g. Rationale and justification for the program demonstrating the demand, as evidenced by:
    (1) Employer need/demand as demonstrated by evidence such as:
        (a) identification of several potential employers of program graduates;
        (b) projected regional and/or statewide need for graduates from current labor market analyses and/or future workforce projections/studies (potential source: www.occsupplydemand.org/)
        (c) surveys made by external agencies;
        (d) letters of direct employer support may be used. Include letters indicating the availability of positions for graduates of the proposed programs, signed by individual in a senior position of authority.Page 27 of 41
    (2) Student demand as demonstrated by evidence such as surveys of potential students to answer the question: "what is the student population served by program implementation?"

N/A

h. Relationship of the proposed program to existing programs on campus and to similar programs within the state, with a rationale reflecting that proposed program demand cannot be met by another program (i.e., program implementation is not an unnecessary duplication).

N/A

i. Curriculum, including identification of new courses and the numbers, names, and sequencing of all courses, as well as demonstration of compliance with CMU's Credit Hour Policy as required by the U.S. Department of Education and articulated by the Higher Learning Commission;

N/A

j. List of faculty and their qualifications. (Is there a need for additional faculty?)

N/A

k. Description of learning resources needed for implementation. Scope and quality of library holdings, laboratories, clinical facilities, and technological support as applicable. Department's recommendations for additions to the Library's collection.

N/A

l. Intended delivery mode for program. For programs delivering any of its coursework via 1) alternative formats, 2) outsourcing, and/or 3) a consortial relationship, the program proposal must demonstrate compliance with requirements as specified by the U.S. Department of Education and articulated in the Higher Learning Commission's policies. To demonstrate this compliance, the proposing department must submit a statement from the VPAA's office.

N/A

m. For Professional, Technical or Other Programs, the justification must include:
    (1) Rationale for program to be in the PTO category.
    (2) Statement as to how the curriculum aligns to the requirements or recommendations of the nationally recognized accrediting, licensing, certifying or professional organization.
    (3) Rationale for the program to exceed 60 credit hours, if applicable.

(4) Rationale for prescribing General Education courses, if applicable.
(5) Rationale for prescribing Applied Studies courses, if applicable.
(6) Explanation as to how a transfer student with an AA degree in the discipline of that program can graduate by completing only an additional 60 hours.

N/A

n. Enrollment Projections, Table 1. (at end of this document)

o. Physical Capacity Estimates, Table 2. (at end of this document)

p. Program Costs – Projected Expense and Revenue Estimates, Table 3. (at end of this document)

Required information for a program modification:
     If change to program name, enter new name: **N/A**
     If change to the concentration/emphasis, enter: **N/A**
     Is there a revision to the program sheet? **Yes**

In addition to providing all of the above information, also accomplish the following:

1. Discuss the proposal with all departments affected by the program
2. If this proposal is for a program addition, complete the three CDHE tables at the end of this document.
3. If this proposal is for a program addition, submit complete program sheet. If this proposal is for a program modification, submit current program sheet marked up with all proposed changes.
4. Submit this completed form to the Library's Curriculum Committee representative a week prior to the published proposal submission deadline.
5. Obtain departmental approval according to department-specific procedures.

* The most up-to-date program sheets are available as Word documents at R:\Curriculum\Program Sheets for Curriculum Program Modifications.

PROPOSED AND PREPARED BY:
Name: **William J. McCracken Jr.**   Date: **10/1/2014**
Email: **wimccrac@coloradomesa.edu**   Phone: **970.248.1666**

REVIEWED BY DEPARTMENT'S CURRICULUM COMMITTEE REPRESENTATIVE:
Name: **Michael Carsten**   Date: **12/19/2014**

APPROVED BY DEPARTMENT HEAD:
Name: **Gary Looft**   Date: **12/18/14**

APPROVED BY DIRECTOR OF TEACHER EDUCATION (REQUIRED FOR TEACHING PROGRAMS)
Name: Date:

For Graduate Curriculum Committee: submit this form to the GCC Chair.

For Undergraduate Curriculum Committee: submit this form to Academic Affairs via email at UCC_Chair@coloradomesa.edu.

For WCCC Curriculum Committee: submit this form to the WCCC CC Chair.

TABLE 1: ENROLLMENT PROJECTIONS

Name of Program: _____N/A_____

Degree Title   _____

Name of Institution: _____

DEFINITIONS:

      Academic year is the period beginning July 1 and concluding June 30.

      Headcount projections represent an unduplicated count of those students officially admitted to the program and enrolled at the institution during the academic year.

      FTE is defined as the full-time equivalent number of those students majoring in the program, regardless of the classes enrolled, during the academic year.

      Program graduate is defined as a student who finishes all academic program requirements and graduates with a formal award within a particular academic year.

SPECIAL NOTES:

      To calculate the annual headcount enrollment, add new enrollees to the previous year headcount and subtract the number who graduated in the preceding year. Adjust by the anticipated attrition rate.

      To calculate FTE, multiply the number of students times the projected number of credit hours degree seeking students will be typically enrolled in per year and divide by 30.

      The data in each column is the annual **unduplicated** number of declared program majors. Since this table documents program demand, course enrollments are not relevant and shall not be included in the headcount or FTE data.

		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Full Implementation
1-a	In-state Headcount						
1-b	Out-of-State Headcount						
2	Program Headcount						
3-a	In-state FTE						
3-b	Out-of-State FTE						
4	Program FTE						
5	Program Graduates						

_____   _____
Signature of Governing Board Officer   Date

TABLE 2: PHYSICAL CAPACITY ESTIMATES

Name of Program: _____N/A_____

Name of Institution: _____

Purpose: This table documents the physical capacity of the institution to offer the program and/or
                the plan for achieving the capacity. Complete A or B.

Part A

I certify that this proposed degree program can be fully implemented and accommodate the enrollment
projections provided in this proposal without requiring additional space or renovating existing space
during the first five years.

_____ _____
Governing Board Capital Construction Officer   Date

Part B

	Column 1	Column 2	Column 3		Column 4		Column 5	Column 6
ASSIGNABLE SQUARE FEET	TOTAL NEEDED	AVAILABLE	RENOVATION		NEW CONSTRUCTION		LEASE/ RENT	REVENUE SOURCE*
TYPE OF SPACE			Immed	Future	Immed	Future		
Classroom								
Instructional Lab								
Offices								
Study								
Special/ General Use								
Other								
TOTAL								

* Capital Construction Fund (CCF), Research Building Revolving Fund (RBRF), Gift (GIFT), Grant (GR), Auxiliary Fund
(AUX)

Attach a narrative describing the institutional contingency plan that addresses the space requirements of the proposed
program or alternative delivery options, in the event that the request for capital construction or renovation is not approved.

_____ _____
Governing Board Capital Construction Officer   Date

Approved Policy   I-B-10   June 5, 2003

TABLE 3 – PROJECTED EXPENSE AND REVENUE ESTIMATES

All cost and revenue projections should be in constant dollars (do not include an inflation factor).

	ESTIMATED AMOUNT IN DOLLARS (PV)				
	Year 1	Year 2	Year 3	Year 4	Year 5
Operating Expenses:					
1 Faculty					
2 Financial Aid specific to program					
3 Instructional Materials					
4 Program Administration					
5 Rent/Lease					
6 Other Operating Costs					
7 Total Operating Expenses					
Program Start-Up Expenses					
8 Capital Construction					
9 Equipment Acquisitions					
10 Library Acquisitions					
11 Total Program Start-Up Exp.					
TOTAL PROGRAM EXPENSES					
Enrollment Revenue					
12 General Fund: State Support					
13 Cash Revenue: Tuition					
14 Cash Revenue: Fees					
Other Revenue					
15 Federal Grants					
16 Corporate Grants/Donations					
17 Other fund sources *					
18 Institutional Reallocation **					
TOTAL PROGRAM REVENUE					

** If revenues are projected in this line, please attach an explanation of the specific source of the funds. If reallocated, the specific departments and the impact the dollars will have on the departments that will provide the reallocated dollars.

_____   _____   _____
Signature of Governing Board Financial Officer   Title   Date

Award: Technical Certificate
Program of Study: Manufacturing Technology
Specialization: Machine and Manufacturing Trades

About This Certificate . . .

This program offers classroom instruction and related lab work with hands-on activities in the use of tools and the operation of equipment found in manufacturing. Students will work in the areas of _blueprint reading, computer numerical control (CNC) machining, general machining and maintenance, computer-aided drafting (CAD), and related mathematics. This course is designed to meet competency-based standards set by the industry. Attitude and quality of workmanship is stressed. Career options include 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 certificate 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 Specialized KnowledgeEthics)

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.

_____   _____ 20_____
Signature of Advisor   Date

_____   _____ 20_____
Signature of Department Head   Date

_____   _____ 20_____
Signature of Registrar   Date

Students should work closely with a faculty advisor when selecting and scheduling courses prior to registration.

Degree Requirements:
- 2.00 cumulative GPA or higher in all CMU coursework
- "C" or better in each course which comprises the area of emphasis or specialization.
- 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.
- See the "Under graduate Graduation Requirements" in the catalog for additional graduation information.

<u>**Technical Certificate: Manufacturing Technology – Machine and Manufacturing Trades**</u> (~~35~~ 37 semester hours)

See the current catalog for a list of courses that fulfill the requirements below. If a course is on the general education list of options and a requirement for your major, <u>you must use it to fulfill the major requirement</u> and make a different selection within the general education requirement.

Course No	Title	Sem.hrs	Grade	Term/Trns
MAMT 105	Print Reading/Sketching	2	____	_____
MAMT 106	Geometric Tolerance	~~1~~2	____	_____
MAMT 115	Introduction to Machine Shop	3	____	_____

Course No	Title	Sem.hrs	Grade	Term/Trns
MAMT 120	Machine Technology I	~~4~~4	____	_____

Course	Title	Sem.hrs	Grade	Term/Trns
MAMT 125	Machine Technology II	~~4~~4	____	_____
MAMT ~~130~~230	Machine Technology III	~~4~~4	____	_____
MAMT ~~140~~240	Job Shop Machining II	3	____	_____
OR				
MAMT 170	Practical Applications	3	____	_____
MAMT 148	CNC Applications	3	____	_____
MAMT ~~151~~251	~~Num Control~~CNC Machining I	3	____	_____
MAMT ~~155~~255	~~Num Control~~CNC Machining II	3	____	_____
MAMT ~~160~~260	Properties of Materials	~~2~~3	____	_____
MATH 107	Career Mathematics	3	____	_____

SUGGESTED COURSE SEQUENCING FOR THE
TECHNICAL CERTIFICATE WITH A
PROGRAM OF STUDY IN MANUFACTURING TECHNOLOGY,
SPECIALIZATION IN MACHINE AND MANUFACTURING TRADES

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.

First Semester		Hours
MATH 107	Career Mathematics	3
MAMT 105	Print Reading/Sketching	2
MAMT 115	Introduction to Machine Shop	3
MAMT 120	Machine Technology I	~~4~~4
MAMT 125	Machine Technology II	~~4~~4
MAMT 148	CNC Applications	3
		~~17~~19

Second Semester		Hours
MAMT ~~130~~230	Machine Technology II~~I~~	~~4~~4
MAMT ~~151~~251	~~Numerical Control~~CNC Machining I	3
MAMT ~~155~~255	~~Numerical Control~~CNC Machining II	3
MAMT ~~140~~240	Job Shop Machining II **or**	
MAMT 170	Practical Application	3
MAMT ~~160~~260	Properties of Materials	~~2~~3
~~MAMT 105~~	~~Print Reading/Sketching~~	~~2~~
MAMT 106	Geometric Tolerancing	~~1~~2
		~~18~~18

Technical Certificate: Manufacturing Technology – Machine and Manufacturing Trades ~~2014~~2015-~~2015~~2016 Program Sheet, Page 2 of 3

POLICIES:

1. It is your responsibility to determine whether you have met the requirements for your degree. Please see the Catalog for a complete list of graduation requirements.
2. 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. 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.**
4. Your advisor will sign and forward the Program Sheet and Graduation Planning Sheet to the Department Head for signature.
5. Finally, the WCCC Director of Instruction or the department administrative assistant will take the signed forms to the Registrar's Office. (Students cannot handle the forms once the advisor signs.)
6. 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.
7. NOTE: The semester before graduation, you may be required to take a Major Field Achievement Test (exit exam).

DEPARTMENT WORKSHEET FOR PROGRAM DELETION, DEACTIVATION, OR REACTIVATION
Colorado Mesa University Curriculum Committees

NOTE: All related course changes must be submitted on separate forms.

DEPARTMENT NAME: **WCCC: Manufacturing and Industrial Services**

Proposal Type: **Deactivation**

PROGRAM: Degree type: **CERT**   Program/degree Name: **Manufacturing Supervision**
Concentration/Emphasis:

Effective Term: **Fall**   Effective Academic Year: **2015-16**

Justification for the proposed program deletion, deactivation, or reactivation (enter below):

This program has had one graduate in 2011, 4 in 2009, and 5 in 2007. The Manufacturing and Industrial Service department would like to deactivate at this time. We will reevaluate over the next two years and determine if this certificate will be reactivated or deleted.

For proposals to delete or deactivate a program, include a detailed "teach-out" plan for students currently enrolled in the program.

The courses taught in this certificate are still being taught, and students can complete the degree. At present there are no students enrolled.

Discuss the proposal with all departments that might be affected by the proposal. List the departments and the date and outcome of the discussion below.

Colorado Mesa University, Montrose campus
Joey Montoya Boese, Director   Had no objections to deactivating the certificate.

Morgan Bridge, Department Head, School of Business   Had no objections to deactivating the certificate.

Note: Proposals to reactivate a program must include a program sheet updated for the term in which the reactivation will take effect. If a program to be reactivated requires modification, submit a modification form as well.

PROPOSED AND PREPARED BY:
Name: **William McCracken**   Date: **12/19/14**
Email: **wmccracken@coloradomesa.edu**   Phone: **2481666**

REVIEWED BY DEPARTMENT'S CURRICULUM COMMITTEE REPRESENTATIVE:
Name: **Michael Carsten**   Date: **1/10/15**

APPROVED BY DEPARTMENT HEAD:
Name: **Gary Looft**   Date: **1/8/15**

APPROVED BY DIRECTOR OF TEACHER EDUCATION (REQUIRED FOR TEACHING PROGRAMS)
Name: Date:

For Graduate Curriculum Committee: submit this form to the GCC Chair.
For Undergraduate Curriculum Committee: submit this form to Academic Affairs via email at
UCC_Chair@coloradomesa.edu.
For WCCC Curriculum Committee: submit this form to the WCCC CC Chair.