WASHTENAW COMMUNITY COLLEGE
COURSE-SYLLABUS APPROVAL FORM (CSAF)

MTT 111

For help screens, select a field and press F1

SECTION I. SUBMISSION INFORMATION

1. **Course:** (Enter proposed discipline, number & title here.)
Discipline/No: MTT 111 **Title:** Machine Shop Theory and Practice **Start Term** ~~Fall 2002~~ Winter 2003
Banner allows only 29 characters and spaces, for the title. Longer titles will have to be abbreviated.

Division Code: HAT Department Code: INDT Org #: 14400 Don't publish: ☐ in College Catalog ☐ in Time Schedule ☐ on Web Page

2. **Type of Approval:** (applies to both new courses and changes)
- ☒ Full Approval
- ☐ Conditional Approval

- ☒ This proposal previously received conditional approval for the term: F2002

3. **Reason for Submission:** This Course is being submitted for: (check all that apply)
- ☐ New Course Approval (Skip 4 and go directly to 5.)
- ☒ Five-year Syllabus Review ☐ No changes to course (Submit complete syllabus)
- ☒ Major Change(s) (Submit complete syllabus)
- ☒ Minor Change(s)* (For fully approved courses, submit revised sections only.)
- ☐ Reactivation of Inactive Course
- ☐ Inactivation (Submit this page only.)

*If requesting a change to a course that has conditional approval, please submit a complete syllabus.

4. **Change Information:** (Check all that apply. Make proposed changes in Section III, Course Syllabus.)

Minor Changes
- ☐ Course Discipline/Number (was _____)
- ☐ Course Title (was _____)
- ☒ Course Description
- ☐ Class Capacity (was: ____)
- ☐ Pre or Co-requisites
- ☐ Course Objectives (minor changes)
- ☒ Distribution of Contact Hours (contact hours were: lect: _____ lab _____ clin _____ other _____)
- ☐ Other

Major Changes (will be reviewed by Curriculum Committee.)
- ☒ Credit hours (credits were: 5)
- ☐ Change in Grading Method
- ☒ Total Contact Hours (total contact hours were: 120)
- ☐ Approval for offering an Honors Section (Attach Approval Form.)
- ☐ Approval for offering Distance Learning Sections (Attach Distance Learning Approval Form)
- ☐ General Education Distribution Course: Add ☐ Remove ☐ (Attach General Education Course Approval Form)
- ☐ Pre or Co-requisites (that affect other departments)

5. **Rationale**: (for new course or course change) Changes are are being made in response to data from Assessment: yes ☐ no ☒
Changes are beng made to the content hours to allow this class to fit into the new MIC program .
In addition the FORD apprenticship leaders were requesting fewer contact hours. MTT 101 will replace some of the content lost.

SECTION II. SIGNATURES

1. **Department Review** (To be completed by department chair)
Will any new resources be required? No, none anticipated ☒ Yes ☐ (If yes, attach list with projected costs)
You must consult all departments that may be affected by this course. List departments contacted below and attach relevant documents.

Does the department support approval of this course? ☒ yes ☐ no (if no, initial and return to preparer with rationale.)

Print: Tom Penird Faculty/Preparer Signature _____ Date: 4/30/02

Print: Gary Schultz Department Chair Signature _____ Date: 4/30/02

2. **Division Review** (To be completed by division dean; if recommendation is no, initial and return to department with rationale.)
Is this a curricular priority for your division? ☐ yes ☐ no (Comment _____)
What is the estimated enrollment? _____
Recommendation ☒ Yes ☐ No _____ Dean's Signature Date 4/30/02

3. **Curriculum Committee Review** (Attach additional comments if necessary and forward to Executive Vice President.)
Recommendation ☒ Yes ☐ No Ruth A. Hartley Curriculum Committee Chair's Signature Date 5.30.02

4. **Vice President for Instruction and Student Services Approval** (Attach additional comments if necessary.)
Approval ☒ Yes ☐ No _____ Executive Vice President's Signature Date 8/15/02

ACS Code _____ Entered in Banner 6-20 fr Entered in Access _____ Log File 6-20 fr
Approved for General Education Area/Group _____ Processed Syllabus Date 2002/05

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SECTION III. COURSE SYLLABUS

A. COURSE DETAILS (Start with #1.)

Discipline & No.: MTT 111 **Title:** Machine Shop Theory and Practice

Course and title will automatically appear above upon saving or previewing

1. **Description:** (Please be brief. Explain acronyms if used.)

This course provides an introduction to machine tool operation. Much emphasis will be placed on shop safety. Other topics that will be covered include: basic measurement, drawings, hand tools, feeds and speeds and rotary tools. In addition to the above, students will gain valuable " hands on" experience learning basic operations on the sawing machines, engine lathes, milling machines and grinding machines.

2. Credit Hours: 4

If Variable credit, Give Range: _____ to _____ credits

If repeatable for credit, how many times _____

3. Contact Hours per Semester:

Lecture:	45
Lab:	45
Clinical:	
Other:	
Total Contact Hours:	90

4. Class Capacity: 16

(If nonstandard, attach Class Capacity Exception form.)

5. Course Options:

- ☐ Distance learning (Attach DL Form)
- ☐ Honors (Attach Honors Addendum.)
- ☐ P/NP Grading

6. Prerequisite(s)

and/or	"("	Course	Min Grade	*Concurrent Enrollment	Test Name	Min. Score	")"	**Level I	**Level II
				☐	MTH 039			☒	☐
☐	☒			☐	COMPASS MATH	24		☒	☐
☐	☐			☐				☐	☐
☐	☐			☐				☐	☐
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☐	☐			☐				☐	☐
☐	☐			☐				☐	☐
☐	☐			☐				☐	☐

Other Prerequisites

Consent Required ☐

7. Corequisites: (limit of 2)

* Can take prerequisite before or concurrently with this course.
**Level I is enforced in Banner; Level II is enforced by instructor on 1st day of class.

8. Course Purpose:

- ☒ Program Requirement
- ☐ General Education
- ☒ Program Support
- ☐ Basic Skills/Developmental
- ☐ Transfer
- ☒ Industry/Professional Dev
- ☐ Enrichment

If a program requirement, specify the program(s)

CVMTTA, APCADD

Please send syllabus for Transfer evaluation to:

- ☐ EMU
- ☐ UM

Accepted for transfer: (attach documentation)

- ☐ EMU
- ☐ UM

9. Terms Course will be offered:

Terms	Session Length (e.g. 15 weeks, 1st 7½ weeks, etc.)	Day	Eve	Even years only	Odd years only
☒ Fall	12 weeks	☒	☒	☐	☐
☒ Winter	12 weeks	☒	☒	☐	☐
☒ Spr/Summer	10 weeks	☐	☒	☐	☐

B. MAJOR INSTRUCTIONAL UNITS A major instructional unit is a grouping of topics that naturally relate to one another. Add additional numbers as needed. (This section is unprotected so that you can cut and paste from other documents.

1. Safety
2. Drawings
3. Basic Measurement
4. Hand Tools
5. Rotary Cutting Tools
6. Feeds and Speeds

7. Horizontal and Vertical Saws
8. Milling Machines
9. Engine Lathes
10. Surface Grinders

C. INSTRUCTIONAL OBJECTIVES

DIRECTIONS: Use student outcomes-based language. (Example: Upon visiting a gravel pit students will observe, analyze and describe in one page the weathering processes.) Units should match those listed in Section B.

(This section is unprotected. You may cut and paste from other documents as needed.)

Unit #1

1. The student will recognize safe and unsafe practices in the shop.
2. The student will become aware of the importance of good safety practices in the shop.
3. The student will pass seven safety quizzes before working on major projects.
4. The student will complete a "Rookie Run" at both the vertical milling machines and the engine lathes.

Unit #2

1. The student will recognize first angle and third angle projection.
2. The student will recognize ANSI symbols used on their projects.
3. The students will understand scale.
4. The students will be familiarized with various line types and their uses.

Unit #3

1. The student will be able to identify three types of rules by different graduations
2. The students will be able to read fractional rules.
3. The students will be able to read decimal rules.
4. The students will be able to read metric rules.
5. The student will be able to identify the parts of an dial caliper.
6. The students will be able to measure using a dial caliper.
7. The student will be able to identify the parts of an vernier height gage.
8. The students will be able to measure using a vernier height gage.
9. The student will be able to identify the parts of a micrometer.
10. The students will be able to measure using a micrometer.
11. The student will be able to use an optical comparitor
12. The student will be able to use a combination square, bevel edge solid square, cylindrical square with dial test indicator, angle plates and surface gage at the surface plates.
13. The student will be able to locate the center of a round feature, at a vertical mill, using a dial test indicator

Unit #4

1. The student will be able to identify the uses for various pitch hack saw blades.
2. The student will be able to properly use a hacksaw.
3. The student will be able to identify Taper, Plug, Bottom taps and their uses.
4. The student will be able to calculate the tap drill size for a given threaded hole.
5. The student will be able to properly use taps
6. The student will be able to properly use dies
7. Student will be able use properly: screwdrivers, adjustable wrenches, hammers, vises,files, stamps and punches
8. Student will be able to identify safety issues.and proper uses of: screwdrivers, adjustable wrenches, hammers, vises,files, stamps and punches
9. The student will will properly use screwdrivers, wrenches, hex wrenches, punches and hammers to assemble parts.

Unit #5

1. The student will be able to able to recognize: drills, center drills, counterbores, counter sinks, reamers, jump edge finders and endmills
2. The student will be able to mount the tools into the proper tool holders, at the machine tools.
3. Student will be able to identify R-8, quick change , morse taper and collet tool holding system

Unit #6

1. The student will be able to calculate the appropriate spindle speed for a given machining operation, tool type and part material
2. The student will be able to calculate the appropriate feed rate for a given machining operation, tool type and part material

Unit #7

1. The student will be able to operate safely horizontal and vertical bands saws
2. The student will demonstrate cutting using the horizontal and vertical saws by cutting stock for their projects.

Unit #8

1. The student will be able to operate safely the vertical milling machines.
2. The student will demonstrate cutting operations using the vertical milling machines by machining their projects.

Unit #9

1. The student will be able to operate safely the engines lathes.
2. The student will demonstrate cutting operations using the engine lathes by machining their projects.

Unit #10

1. The student will be able to operate safely the manual surface grinders.
2. The student will demonstrate trueing and dressing a grinding wheel at the surface grinder.
3. The student will demonstrate surface grinding operations by surface grinding the top and bottom faces a steel part.

D. INSTRUCTIONAL METHODS, EVALUATION CRITERIA, AND ASSESSMENT

1. Instructional Methods: (Check the appropriate boxes and describe as needed.)

☒ Lecture/Discussion	☐ Performances
☐ Clinical Instruction	☐ Group Critiques
☒ Laboratory Assignments	☐ Field Trips
☐ Internet Assignments	☐ Telecourse
☐ Computer Simulations	☐ ITV Course
☐ On-Site Work Experience	☐ Self-Paced Instruction
☐ Team Assignments	☐ Other
☒ Demonstrations	☐ Other

2. Evaluation Criteria:

☒ Attendance	☒ Quizzes 40%
☐ Class Discussion	☐ Tests
☐ Papers	☒ Midterm 5%
☐ Portfolios	☒ Final Exam 5%
☒ Projects 30% - Must complete 75% to paas class	☐ Presentations
☐ Reports	☐ Individual Performance
☐ Clinical Assignments	☐ Group/Team Performance
☐ Home Work	☒ Other Cleaning of Machine tools - end of semester

3. Assessment of Student Achievement: (Indicate methods that will be used for NCA mandated assessment of student academic achievement at the course and (if applicable) general education levels)

☐ Departmental Exam	☒ Pre-test/Post-test
☐ Follow-on Tracking	☐ Simulations
☐ Standardized Test	☒ Comprehensive Project
☐ Portfolio Assessment	☐ Other

F. EQUIPMENT, FACILITIES, TEXTS, MATERIALS, AND SUPPLIES

1. Special Equipment/Facilities : (Check the appropriate boxes and describe as needed.)

☒ Lab equipment Machine tools and Measurement tools	☐ ITV Classroom
☐ Computer Lab	☐ Off-Campus Sites
☐ CD ROM's	☐ Testing Center
☐ Data Projector/Screen	☐ Other
☐ VCR	☐ Other
☐ TV Monitor	☐ Other

2. Texts: (Please indicate if no text is required.)

Title: Technology of Machine Tools
Author: Krarr and Check — Copyright Yr: 1997
Publisher: Glenco — Est. Cost: $75.00

Title: Machine Tool Technology Safety Manual
Author: Penird — Copyright Yr: 2002
Publisher: — Est. Cost: $10.00

Title: Machine Shop Theory and Practice MTT 111 Course Pack
Author: Penird and Donahey — Copyright Yr: 2002
Publisher: — Est. Cost: $13.50

Title:
Author: — Copyright Yr:
Publisher: — Est. Cost:

Additional Texts:

3. Supplies and/or Uniforms students will have to Acquire: (e.g. calculators, uniforms, tools, etc.)

Descriptions	**Cost Estimates**

4. Reference Materials that will be used: (e.g. journals, books, manuals, maps, LRC reserves, etc.)

Title/Name	**Location**

5. Computer Software that will be used:

Title/Name	**Location**

6. Audio/Visual Materials that will be used: (e.g. films, video tapes, slides, audio tapes, CDs, etc.)

Title/Name	**Location**