

MASTER SYLLABUS

Course Discipline Code & No: MTT 203 Title: Advanced Machine Tool Operations Effective Term Fall '09
 Division Code: HAT Department Code: INTD Org #: 14400
 Don't publish: College Catalog Time Schedule Web Page

Reason for Submission. Check all that apply.
 New course approval Reactivation of inactive course
 Three-year syllabus review/Assessment report Inactivation (Submit this page only.)
 Course change

Change information: Note all changes that are being made. Form applies only to changes noted.
 Consultation with all departments affected by this course is required. Total Contact Hours (total contact hours were: _____)
 Course discipline code & number (was _____)* Distribution of contact hours (contact hours were:
 *Must submit inactivation form for previous course. lecture: _____ lab _____ clinical _____ other _____)
 Course title (was _____) Pre-requisite, co-requisite, or enrollment restrictions
 Course description Change in Grading Method
 Course objectives (minor changes) Outcomes/Assessment (minor revisions to make measurable)
 Credit hours (credits were: _____) Objectives/Evaluation
 Other _____

Rationale for course or course change. Attach course assessment report for existing courses that are being changed.
 Standard 3-year review

Approvals Department and divisional signatures indicate that all departments affected by the course have been consulted.

Department Review by Chairperson New resources needed All relevant departments consulted
 Print: Jeffrey Donahey Signature: Jeffrey Donahey Date: 06/01/2009
 Faculty/Preparer
 Print: Tom Penird Signature: Tom Penird Date: 6/01/2009
 Department Chair
 Division Review by Dean
 Request for conditional approval
 Recommendation Yes No [Signature] Date: 6/02/2009
 Dean's/Administrator's Signature
 Curriculum Committee Review
 Recommendation Tabled Yes No [Signature] Date: 9/24/09
 Curriculum Committee Chair's Signature
 Vice President for Instruction Approval
[Signature] Date: 9/29/09
 Vice President's Signature
 Approval Yes No Conditional

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 for

Do not write in shaded area.
 Log File 6/2/09 Ecopy Banner 10/7 C&A Database 10/7 C&A Log File 10/7/09 Basic skills Contact fee

Please return completed form to the Office of Curriculum & Assessment and email an electronic copy to sjohn@wccnet.edu for posting on the website.

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***Complete ALL sections which apply to the course, even if changes are not being made.**

Course: MTT 203	Course title: Advanced Machine Tool Operations
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Credit hours: 4 If variable credit, give range: _____ to _____ credits	Contact hours per semester: <table style="width:100%"> <tr> <td></td> <td style="text-align:center"><u>Student</u></td> <td style="text-align:center"><u>Instructor</u></td> </tr> <tr> <td>Lecture:</td> <td style="text-align:center">45</td> <td style="text-align:center">45</td> </tr> <tr> <td>Lab:</td> <td style="text-align:center">45</td> <td style="text-align:center">45</td> </tr> <tr> <td>Clinical:</td> <td style="text-align:center">—</td> <td style="text-align:center">—</td> </tr> <tr> <td>Practicum:</td> <td style="text-align:center">—</td> <td style="text-align:center">—</td> </tr> <tr> <td>Other:</td> <td style="text-align:center">—</td> <td style="text-align:center">—</td> </tr> <tr> <td>Totals:</td> <td style="text-align:center">90</td> <td style="text-align:center">90</td> </tr> </table>		<u>Student</u>	<u>Instructor</u>	Lecture:	45	45	Lab:	45	45	Clinical:	—	—	Practicum:	—	—	Other:	—	—	Totals:	90	90	Are lectures, labs, or clinicals offered as separate sections? <input type="checkbox"/> Yes - lectures, labs, or clinicals are offered in separate sections <input checked="" type="checkbox"/> No - lectures, labs, or clinicals are offered in the same section	Grading options: <input type="checkbox"/> P/NP (limited to clinical & practica) <input type="checkbox"/> S/U (for courses numbered below 100) <input checked="" type="checkbox"/> Letter grades
	<u>Student</u>	<u>Instructor</u>																						
Lecture:	45	45																						
Lab:	45	45																						
Clinical:	—	—																						
Practicum:	—	—																						
Other:	—	—																						
Totals:	90	90																						

Prerequisites. Select one:

College-level Reading & Writing
 Reduced Reading/Writing Scores (Add information at Level I prerequisite)
 No Basic Skills Prerequisite (College-level Reading and Writing is not required.)

In addition to Basic Skills in Reading/Writing:

Level I (enforced in Banner)

Course	Grade	Test	Min. Score	Concurrent Enrollment <small>(Can be taken together)</small>	Corequisites <small>Must be enrolled in this class also during the same semester</small>
<input checked="" type="checkbox"/> and <input type="checkbox"/> or MTT 111	C-	_____	_____	<input type="checkbox"/>	_____
<input type="checkbox"/> and <input type="checkbox"/> or MTH 151	C-	_____	_____	<input type="checkbox"/>	_____
<input type="checkbox"/> and <input type="checkbox"/> or _____	_____	_____	_____	<input type="checkbox"/>	_____
<input type="checkbox"/> and <input type="checkbox"/> or _____	_____	_____	_____	<input type="checkbox"/>	_____

Level II (enforced by instructor on first day of class)

Course	Grade	Test	Min. Score
<input type="checkbox"/> and <input type="checkbox"/> or _____	_____	_____	_____
<input type="checkbox"/> and <input type="checkbox"/> or _____	_____	_____	_____

Enrollment restrictions (In addition to prerequisites, if applicable.)

and or Consent required
 and or Admission to program required
 and or Other (please specify): _____
 Program: _____

Please send syllabus for transfer evaluation to:
 Conditionally approved courses are not sent for evaluation.
 Insert course number and title you wish the course to transfer as.

<input type="checkbox"/> E.M.U. as _____	<input type="checkbox"/> _____ as _____
<input type="checkbox"/> U of M as _____	<input type="checkbox"/> _____ as _____
<input type="checkbox"/> _____ as _____	<input type="checkbox"/> _____ as _____

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<p>Course MTT 203</p>	<p>Course title Advanced Machine Tool Operations</p>	
<p>Course description State the purpose and content of the course. Please limit to <u>500</u> characters.</p>	<p>This course teaches advanced machine tool skills required by industry. Topics include: carbide tooling identification and uses, threading and thread forms, cutting internal and external tapers, precision measurement, advanced layout and set-up techniques and grinding. Students will attain a higher comprehension level for set-up and tooling requirements needed for CNC programming and CAD/CAM classes.</p>	
<p>Course outcomes List skills and knowledge students will have after taking the course. Assessment method Indicate how student achievement in each outcome will be assessed to determine student achievement for purposes of course improvement.</p>	<p>Outcomes (applicable in all sections)</p>	<p>Assessment Methods for determining course effectiveness</p>
	<p>Perform advanced machine tool set-up and operations. Perform machine tool task to a high degree of proficiency and accuracy. Demonstrate advanced material removal methods. Identify safe practices in the machine tool environment.</p>	<p>Capstone projects Capstone projects Capstone projects multiple choice exam</p>
<p>Course Objectives Indicate the objectives that support the course outcomes given above. Course Evaluations Indicate how instructors will determine the degree to which each objective is met for each student.</p>	<p>Objectives (applicable in all sections)</p>	<p>Evaluation Methods for determining level of student performance of objectives</p>
	<ol style="list-style-type: none"> 1. Safety/Safe Practices: Students will recognize the safety risks associated with manufacturing environments and specifically those related to the machine tool industry. Students will be required to pass a 20 question multiple choice safety test. 2. Carbide Tool Identification: students will learn how to order and identify carbide tooling for machine tool applications. 3. Threading and Thread forms: Students will be required to identify various thread forms by name, major diameter, and pitch, using tools such as thread wires, thread micrometers, optical comparators, and thread pitch gauges. Students will then be asked to machine, mating parts to the thread forms identified. 4. Internal and External Tapers: Students will be required to identify tapers, measure tapers and machine tapers. 5. Precision Measurement: Students will demonstrate advanced measurement techniques through classroom exercises and measurements required to produce their parts. 6. Advanced Layout and Set-Up Techniques: Students will demonstrate advanced layout and set-up techniques through classroom exercises and set-ups required to produce their parts 7. Grinding: Students will be required to understand the various types of abrasive wheels and the nomenclature and coding identifying them. Students will be required to set-up and operate a surface grinding machine. Students will grind their part to tolerances of less than .001 inch. 	<p>Tests, competency exams, capstone project</p>

List all new resources needed for course, including library materials.

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Student Materials:

List examples of types		Estimated costs
Texts	Machine Shop Practices, Fifth Edition, Krar/Check	\$ 100.00
Supplemental reading	Machine Tool Safety Manual	\$ 12.00
Supplies		
Uniforms		
Equipment		
Tools		
Software		

Equipment/Facilities: Check all that apply. (All classrooms have overhead projectors and permanent screens.)

Check level <u>only</u> if the specified equipment is needed for <u>all</u> sections of a course. <input type="checkbox"/> Level I classroom Permanent screen & overhead projector <input type="checkbox"/> Level II classroom Level I equipment plus TV/VCR <input checked="" type="checkbox"/> Level III classroom Level II equipment plus data projector, computer, faculty workstation	<input type="checkbox"/> Off-Campus Sites <input type="checkbox"/> Testing Center <input type="checkbox"/> Computer workstations/lab <input type="checkbox"/> ITV <input type="checkbox"/> TV/VCR <input type="checkbox"/> Data projector/computer <input checked="" type="checkbox"/> Other <u>machine tool lab</u>
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Assessment plan:

Learning outcomes to be assessed (list from Page 3)	Assessment tool	When assessment will take place (semester & year)	Course section(s)/other population	Number students to be assessed
Perform advanced machine tool set-up and operations.	Capstone projects	Winter 2010 and every 3 years thereafter	All	All
Perform machine tool task to a high degree of proficiency and accuracy.	Capstone projects	Winter 2010 and every 3 years thereafter	All	All
Demonstrate advanced material removal methods.	Capstone projects	Winter 2010 and every 3 years thereafter	All	All
Identify safe practices in the machine tool environment.	Multiple choice exam	Winter 2010 and every 3 years thereafter	All	All

Scoring and analysis of assessment:

1. Indicate how the above assessment(s) will be scored and evaluated (e.g. departmentally developed rubric, external evaluation, other). Attach the rubric/scoring guide.

The capstone project will be scored using the attached rubric. Multiple choice exam will be scored using the answer sheet.

2. Indicate the standard of success to be used for this assessment.

75% of the students will score an overall average of 70% or higher on the outcomes.

3. Indicate who will score and analyze the data (data must be blind-scored).

Departmental faculty will blind-score the capstone project. Test data will be accumulated and combined with the capstone project data.

4. Explain the process for using assessment data to improve the course.

Accumulated data will be analyzed and the results shared at a departmental meeting. Areas where performance is below the standard of success will be identified and ideas generated to remediate the problem. Instructional methods, practices and testing will be reviewed.