MTT114 Machining I Syllabus

Course Information
Credits 3
Campus Washburn Institute of Technology
Address 5724 SW Huntoon
City/State/Zip Topeka, Kansas 66604
Office Fax 785-273-7080

Description
Students will learn to conduct job hazard analysis for conventional mills and lathes, develop math skills for machine tool operations, perform preventive maintenance and housekeeping on conventional mills and lathes, select work holding devices for mills, lathes and other machine tools, calculate feeds and speeds, remove material using milling and turning processes, align milling head, use a vertical mill to center drill, drill and ream holes, change tools and tool holders on milling machines, and maintain saws and grinders. Prerequisite: OSHA 10 or 30 Safety Course

Textbooks


Student Learning Outcomes:
A. Communicate effectively
B. Integrate technology
C. Learn effectively
D. Demonstrate cooperative teamwork skills
E. Apply safety in the workplace
F. Think critically and creatively
G. Demonstrate responsible work ethics

Competencies
1. Conduct job hazard analysis (JHA) for conventional mills and lathes.
2. Develop math skills for machine tool operations.
3. Convert metric/English measurements
4. Perform preventive maintenance on manual lathes.
5. Select work holding devices.
6. Calculate cutting speeds and feeds for an assigned project.
7. Perform operations using tailstock.
8. Set speeds, feeds and depth of cut on milling machines.
11. Change tools and holders on milling machines.
12. Align vertical mill head.
13. Use a vertical mill to center drill, drill and ream holes.
14. Remove material using milling and turning processes.
15. Machine parts square on milling machines.

Guidelines for Success

Assessment Plan
Assessment is an integral part of the educational process at Washburn Tech and accurate feedback is an important tool in continuously improving the institution’s technical programs. Students can expect to participate in assessment activities prior to entry into programs, within specific courses and following program completion for specific fields of study.

Grading Rationale and Grading Scale
Grading is based on the quality of shop assignments, attendance, tests and quiz scores.

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
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<tbody>
<tr>
<td>90% - 100%</td>
<td>A</td>
</tr>
<tr>
<td>80% - 89%</td>
<td>B</td>
</tr>
<tr>
<td>70% - 79%</td>
<td>C</td>
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<tr>
<td>60% - 69%</td>
<td>D</td>
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<tr>
<td>Below 60%</td>
<td>F</td>
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The minimum acceptable passing grade is C. The total grade will be calculated using the following formula: Attendance = 10%, shop assignments = 30%, tests = 20% and quizzes = 10%, Semester final = 30%. 100% attendance adds 5% to the final score, less than 90% attendance deducts 5% from the final score.

Attendance
Attendance is required. Please see instructor for make-up policy for excused and school related absences.
Disability
The Special Support Services (SSS) Office is responsible for assisting in arranging accommodations and for identifying resources at Washburn Institute of Technology for persons with disabilities. Qualified students with disabilities MUST register and provide documentation with the office to be eligible for services. New requests for accommodations should be submitted two months or more prior to the date services should begin; however, contact the SSS Office as soon as a need may arise. Depending on the accommodation request, four to eight week lead time may be needed for timely and effective provision of services. SSS coordinates and assist in arranging services it deems appropriate of eligible students on a case-by-case basis.

If you are a student with a disability that may substantially limit your ability to participate in this class and believe you will need accommodations, it is your responsibility to contact:

Special Support Services Coordinator
Phone: 785-228-6356
E-Mail: ssscoordinator@washburn.edu