# GRINDING
## Course Syllabus

<table>
<thead>
<tr>
<th>Course Number:</th>
<th>NCMT-1688</th>
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<tbody>
<tr>
<td>OCAS Code:</td>
<td>None</td>
</tr>
<tr>
<td>Course Length:</td>
<td>30 Hours</td>
</tr>
<tr>
<td>Career Cluster:</td>
<td>Machining</td>
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<tr>
<td>Career Pathway:</td>
<td>Production</td>
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<tr>
<td>Career Major(s):</td>
<td>Certified Machine Technician</td>
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**Pre-requisite(s):**

**Course Description:** In this course students will learn and understand these concepts: grinder safety; how to identify different types of grinders; the different types of grinding wheels and how to read markings on blotter. Student will operate a surface grinder after completing a surface grinder safety test.

**Textbooks:** Instructor developed curriculum – on Blackboard site

**Course Objectives:**

A. **Introduction to Precision Grinding**
   1. Surface Grinders
   2. Cylindrical Grinders
   3. Tool and Cutter Grinders
   4. The Jig Grinder

B. **Grinding Wheels for Precision Grinding**
   1. Wheel Shapes
   2. Grinding-Wheel Specifications
   3. Superabrasives

C. **Surface Grinding Operations**
   1. General Surface Grinding Safety
   2. Mounting the Grinding Wheel
   3. Workholding Devices
   4. Wheel Dressing
   5. Dressing Aluminum Oxide & Silicon Carbide Wheels
   6. Dressing Diamond & CBN Wheels
   7. Grinding Parallel Surfaces
   8. Grinding Perpendicular Surfaces
   9. Grinding Angles
   10. Side Grinding
   11. Performing Side Grinding
   12. Grinding Cylindrical Work
   13. Grinding Problems

NIMS/TTC objectives
GRINDING

Teaching Methods:  The class will primarily be taught by the lecture and demonstration method and supported by various media materials to address various learning styles. There will be question and answer sessions over material covered in lecture and media presentations. Supervised lab time is provided for students to complete required projects.

Grading Procedures:  
1. Students are graded on theory and shop practice and performance.
2. Each course must be passed with seventy (70%) percent or better.
3. Grading scale: A=90-100%, B=80-89%, C=70-79%, D=60-69%, F=50-59%.

Description of Classroom, Laboratories, and Equipment:  Tulsa Technology Center campuses are owned and operated by Tulsa Technology Center School District No. 18. All programs provide students the opportunity to work with professionally certified instructors in modern, well-equipped facilities.

Available Certifications/College Credit:  The student may be eligible to take state, national or industry exam after completion of the program. College credit may be issued from Oklahoma State University-Okmulgee or Tulsa Community College. See program counselor for additional information.

College Credit Eligibility:  The student must maintain a grade point average of 2.0 or better.