

COURSE INFORMATION

COURSE PREFIX/NO: **MTT 147**
COURSE TITLE: **Tool and Cutter Grinding**
LEC HRS/WK: 2.0
LAB HRS/WK: 1.0
CREDIT HRS/SEMESTER: 2.0

[DL ATTENDANCE/VA STATEMENT](#) [TEXTBOOK INFORMATION](#)

COURSE DESCRIPTION

This course covers theoretical and practical training in cutting tools, cutting tool angles, the mechanics of material removal, and the operations of tool and cutter grinding equipment.

COURSE COMPETENCIES

Upon successful completion of this course, the student will perform the following:

- Name, describe and give a use of three grinding wheels.
- Identify grinding wheels using standard identification system.
- Mount and true a grinding wheel.
- Define cutting and clearance angles on different cutters.
- Name and describe the major parts of a tool and cutter grinder.
- Name and describe at least four attachments that can be used on the tool and cutter grinder.
- Describe four tooth rest blades.
- Use a clearance angle chart.

MINIMAL STANDARDS/PERFORMANCE OBJECTIVES

Following classroom lecture and instructors demonstrations the student will:

1. Name, describe and give a use of three grind wheels with 100% accuracy.
2. Identify grinding wheels with 100% accuracy.

3. Mount and true grind wheels according to the instructor's satisfaction.
4. Define cutter clearance on different cutters with 100% accuracy.
5. Name and describe the major parts of a tool and cutter grinder with 100% accuracy.
6. Name and describe at least four attachments used on the tool and cutter according to the instructors satisfaction.
7. Describe four tooth rest blades according to the instructors satisfaction.
8. Use a clearance angle chart with 100% accuracy.

COURSE REQUIREMENTS

ATTENDANCE

The student should adhere to the attendance policy set forth in the York Technical College Student Handbook. "Students must attend 80% of the hours assigned the class for a semester to receive credit for the course." In case a student does miss a class he/she is responsible for obtaining the material that was covered during the absence.

If a student is aware that he/she will miss class, then the student should notify the instructor at the earliest possible date.

If a student misses a test because of illness or urgent emergency, then he/she should do the following:

Notify the instructor prior to the class period, or at the earliest possible date. At that time a new date for a make-up test will be scheduled.

Student with unexcused absences during test time will be allowed to take a make-up test at the instructor's discretion.

The student has the burden of making sure that some arrangement was made with the instructor to take a make-up test.

ACADEMIC HONESTY

"York Technical College adheres to the South Carolina TECH Student Code, approved by the State Board for Technical and Comprehensive Education on March 13, 1974 (revised last April 25, 1984). Copies of this code are available in the Library and from Student Services. Any student caught cheating or involved in any other academic dishonesty will be given a grade of zero and will be subject to further disciplinary action".

PARTICIPATION IN CLASS DISCUSSION

COMPLETING ASSIGNED READING, LAB DEMONSTRATIONS, AND TESTS

CLASSROOM AND SHOP PROCEDURES

- Roll will be called at the beginning of each class.
- Students are responsible for assigned reading on: Grinding machines, horizontal surface grinding, plain cylindrical grinding, form grinding, grinding taper work, plunge grinding, internal grinding, cutter grinding, clearance grinding, grinding proper clearance angle, grind operating and maintenance tips
- Tools and equipment that are used will be returned to their proper place.
- At the end of each class the student will be responsible or cleaning his/her work area. Brushes, brooms, and mops will be provided for this purpose.
- Shoes and safety glasses must be provided by the student.

LAB REQUIREMENTS

During the lab, students may work in pairs or individually. The instructor must see the completed project. A performance test will be given to ascertain if the student can successfully make the project.

EVALUATION STRATEGIES/GRADING

Students will be expected to complete 1 written test, 3 projects, and homework. Minimum score of 60% will be required on each test, project, and homework. Students who score below 70% may request a re-test at the instructor's discretion. Maximum re-test score will be 80%.

The final grade for MTT 147 will be determined as follows:

Shop Projects	70%
Test	20%
Homework/QA	10%

Grading scale is as follows:

A	90-100
B	80-89
C	70-79
D	60-69
F	0-60

CRITERIA FOR LAB PROJECTS

- A = Student completed all projects correctly, without assistance.
- B = Student completed all projects correctly, with minimal assistance from instructor.
- C = Student completes all projects with constant assistance from instructor.
- D = Student does not complete all projects, with or without assistance.
- F = Student does not attempt to complete projects with or without assistance.

REQUIREMENTS FOR SHOP PROJECTS

1. Projects must be machined within specified tolerance.
2. Projects must be neat in appearance.
3. Projects must be free of burrs.

ENTRY LEVEL REQUIREMENTS

Student should be able to read and write.

PREREQUISITES

None

CO-REQUISITES

None

TOPIC/CONTENT OUTLINE

- A. Grinding Wheels
- B. Angles on Cutters
- C. Major Parts of Tool and Cutter Grinder
- D. Attachments for Cutter Grinder
- E. Tooth Rests for Cutter Grinder
- F. Clearance Chart

METHODS OF INSTRUCTION

Classroom instruction will include lectures and discussions. Alternate instructions: If extra help is desired by the student, he/she should:

1. Ask the instructor for additional help in the shop.
2. Review units in the textbook.