

**NORTHEASTERN TECHNICAL COLLEGE
COURSE OUTLINE**

COURSE: MTT	PREFIX NO. 123	EFFECTIVE DATE Spring 2007	NEXT REVIEW DATE Spring 2008		
TITLE: MACHINE TOOL THEORY II		CREDITS 3	CONTACTS		
			CLASS	LAB	TOTAL
			3	0	3

PREREQUISITES: MTT-121

DESCRIPTION: **LEVEL 1:** This course covers the principles involved in machining parts using machine tools, including lathes, mills, drill presses, grinders, and the attachments for each.

LEVEL II: Principles of machine tools, attachments, and accessories necessary to produce from stock materials parts ground to close tolerance to fit together into working assemblies.

TEXTBOOK(S) OR ALTERNATIVE: Machining Fundamentals, John R. Walker

MATERIALS (specifying those to be purchased by student):

Safety Glasses

COLLATERAL READING: Machinist Ready Reference
Machinery's Handbook 27th Edition

CLASS MANAGEMENT ACTIVITIES (Attendance, tardies, testing, etc.):

Academic Dishonesty: Students are expected to do their own work. Please refer to the NETC Student Code and Grievance Procedure for a definition of academic dishonesty and an outline of the disciplinary action that may result therefrom.

Attendance: The student must attend at least 90% of classes. The student will be dropped from the course after 10% has been reached.

Tardies: Three tardies constitute one absence.

Testing: Weekly tests and pop quizzes will be given at instructor's discretion. If tests are not taken on test day 25 points will be deducted from the grade unless prior arrangements have been made.

Disabilities Statement: Students with disabilities are encouraged to contact the Vice President for Student Services to discuss needs or concerns as they pursue an academic program and participate in campus life. The Vice President for Student Services will provide guidance regarding official documentation of disabilities and/or accommodation of needs. (See *College Catalog*)

Student ID: It is mandatory that every student wear his/her student ID while on the Cheraw campus.

RESOURCES (A-V, tools/equipment): Machine Shop Lab

COURSE TOPICAL OUTLINE (List topics and sub-topics of course) and

Calendar or approximate length of time devoted to topic.

- WEEKS 1-4:** The Lathe Chapter 13
- WEEKS 5-6:** Cutting Tapers and Screw Threads Chapter 14
- WEEK 7:** Other Lathe Operations Chapter 15
- WEEK 8:** The Milling Machine Chapter 17
- WEEKS 9-10:** Milling Machine Operations Chapter 18
- WEEKS 11-12:** Precision Grinding Chapter 19
- WEEKS 13-15:** Computer Numerical Control Chapter 21

OBJECTIVES OF COURSE:

- 1) The student will demonstrate knowledge of the milling machine types and construction.
- 2) The student will demonstrate knowledge of the major milling machine parts and the functions of each part.
- 3) The student will demonstrate knowledge of the milling machine accessories and their functions:
 - a) Accessories for mounting cutters
 - b) Accessories for holding work pieces
- 4) The student will demonstrate knowledge of the attachments used on the milling machine such as:
 - a) Rotary table
 - b) Indexing head
- 5) The student will demonstrate knowledge of safety precautions required for the milling machine.
- 6) The student will demonstrate knowledge of surface grinders.
- 7) The student will demonstrate knowledge of machine operations and setups previously studied.
- 8) The student will demonstrate knowledge of measure angles.
- 9) The student will demonstrate knowledge of grinding hardened steel.
- 10) The student will demonstrate knowledge of the machinability of metals.
- 11) The student will demonstrate knowledge of numerical control system operations.
- 12) The student will demonstrate knowledge of electrical energy processes.

INSTRUCTIONAL METHODS TO COMPLETE OBJECTIVES:

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Classroom Lecture
Homework Assignments

EVALUATION METHODS USED TO APPRAISE OBJECTIVES:

TEST 50%
EXAM 50%

GRADING:

100 - 93 = A
92 - 85 = B
84 - 77 = C
76 - 69 = D
68 - BELOW = F