

**NORTHEASTERN TECHNICAL COLLEGE
COURSE OUTLINE**

COURSE: MTT	PREFIX NO. 232	EFFECTIVE DATE SPRING 2007	NEXT REVIEW DATE SPRING 2008		
TITLE: TOOL AND DIEMAKING II		CREDITS 5	CONTACTS		
			CLASS	LAB	TOTAL
			2	9	5

PREREQUISITES: MTT 231

DESCRIPTION:

LEVEL I: This course covers the manufacture and use of a compound die or tools.

TEXTBOOK(S) OR ALTERNATIVE:

Advance Diemaking

MATERIALS (specifying those to be purchased by student):

Safety glasses

COLLATERAL READING:

Die Design Fundamentals
Machinery's Handbook

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

Attendance: The student is required by the instructor to attend 90% of classes.

Projects: (Appearance and tolerance)

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.

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 or her student ID at all times when on the Cheraw campus. During the first week of classes, the instructor will issue a reminder to wear the ID. This reminder is a warning.

After the first week of classes, instructors are required to dismiss students without ID from class. The student may get his/her ID (or a new one in Student Services for \$3.00) and return to class before the midpoint of the class. If the student cannot get an ID

and return to class by the midpoint, the instructor will record the absence.

COURSE TOPICAL OUTLINE: (List topics and sub-topics of course) and Calendar or approximate length of time devoted to topic.

This course is self-paced, but should be completed by the end of the semester. Applications and set-ups of machines, machine attachments and other tools will be explained to the student as he/she progresses in the construction of tools and dies.

OBJECTIVES OF COURSE:

The student should complete the construction of a compound die to run in the production press to produce finished piece parts.

INSTRUCTIONAL METHODS TO COMPLETE OBJECTIVES:

Class lecture
Hands on operation in machine shop lab

EVALUATIVE METHODS TO APPRAISE OBJECTIVES:

Finished compound die
Product of the tool

GRADING:

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

TO RECEIVE FINAL GRADE:

Students must complete their Progressive Die to receive a grade. Students must participate in final lab clean-up or will receive a grade of "I". Lab clean-up will be announced when the exam schedule is posted.

PARTICIPATION: Evaluation of your participation will be based on the following:

(100 - 80) Comes to class prepared; voluntarily and enthusiastically participates in classroom activities, presentations, and clean-up. Stimulates creativity and demonstrates excellent completion of in-class assignments. Must demonstrate respect to instructor and fellow students.

(80 - 60) Comes to class prepared; usually participates in classroom activities, presentations, and clean-up. Demonstrates satisfactory completion of in-class assignments. Must have above average attendance, a positive attitude, and demonstrate respect for instructor and fellow students.

(60 - 40) Usually comes to class prepared; occasionally participates

in classroom activities, presentations, and clean-up. Completes most in-class assignments. Has average attendance, a positive attitude, and demonstrates respect for instructor and fellow students.

(40 - 20) Occasionally comes to class prepared; reluctantly participates in class activities. Occasionally completes in-class assignments. Has below average attendance, uncooperative attitude, and demonstrates lack of respect for instructor and fellow students.

(20 - 0) Seldom comes to class prepared; uncooperative and disruptive to class discussions or other learning activities. Has poor attendance and shows disrespect for instructor and fellow students. Avoids class clean-up and/or has a negative attitude.

DUTY: Make A Compound Die
TASK: Design A Stock Strip Layout

PERFORMANCE OBJECTIVE:

Student will demonstrate how to design a stock strip layout for a compound die.

LEARNING ACTIVITIES:

- 1) Read "Advanced Diemaking" pg. 46

DUTY: Make A Compound Die
TASK: Develop Bolt & Dowel Construction

PERFORMANCE OBJECTIVE:

The student will design a bolt and dowel pattern that will position and retain the die components in an assembly. All parts must be accurately positioned securely held in position and must be easily assembled and disassembled and must be fool proof.

LEARNING ACTIVITIES:

- 1) Read "Basic Diemaking" Chapter 4
- 2) Read "Die Design Fundamentals" Section 16

DUTY: Make A Compound Die
TASK: Make a Bill of Materials

PERFORMANCE OBJECTIVE:

Student will make a bill of materials listing all the parts to be made and the parts that are to be purchased including all necessary information.

LEARNING ACTIVITIES:

- 1) Read "Die Design Fundamentals" Section 19

DUTY: Make A Compound Die

TASK: Machine All Parts Of A Compound Die

PERFORMANCE OBJECTIVE:

Student will select the materials required and machine the components of the compound die to print specifications. The hardness of heat treated components will be determined by the student.

LEARNING ACTIVITIES:

- 1) Read "Advanced Diemaking" Chapter 4
- 2) Use reference books for cutting clearance and hardness

DUTY: Make A Compound Die

TASK: Assemble A Compound Die

PERFORMANCE OBJECTIVE:

Student will assemble the die components, all components must be located and retained as specified in Chapter 4 of Advanced Diemaking.

LEARNING ACTIVITIES:

- 1) Read "Advanced Diemaking" Chapter 4

DUTY: Make a Compound Die

TASK: Check Assembled Die

PERFORMANCE OBJECTIVE:

Student will inspect the die to be sure that there is no interference and it is properly aligned. All bolts should be checked to be sure they are securely tight.

LEARNING ACTIVITIES:

- 1) See Instructor

DUTY: Make A Compound Die

TASK: Run A Die To Produce Parts

PERFORMANCE OBJECTIVE:

Student will setup the die in a punch press and produce a minimum of 25 piece parts.

LEARNING ACTIVITIES:

- 1) Read "Advanced Diemaking" Chapter 1
- 2) See Instructor

NOTE: Ask questions, do not assume anything. Be safe!