

DOC. # 85

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ON

COURSE OUTLINE

**COURSE TITLE:** TOOL AND DIE MAKING

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**CODE NO.:** MCH 245

**SEMESTER:** FOUR (4)

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**PROGRAM:** MECHANICAL ENGINEERING TECH. (MACHINING)

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**AUTHOR:** R. ZUCCATO

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**DATE:** JANUARY 1992

**PREVIOUS OUTLINE DATED:** N/A

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**APPROVED:**

DEAN

*R. P. Chaytt*

DATE

*92/01/10*

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TOTAL CREDIT HOURS

PREREQUISITE(S):

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**I. PHILOSOPHY/GOALS:**

The students in this program have at this point in their training a sound understanding of machining. Tool & Die Making is intended to put this knowledge to work in the manufacture of a precision tool or a die. She/he will learn the fundamentals and working principles of die building. The course is 2 hours per week hands on experience and 1 hour per week in the classroom.

**II. STUDENT PERFORMANCE OBJECTIVES:**

Upon successful completion of this course the student will:

- 1) be familiar with the presswork operations and the manufacture of the various die types.
- 2) gain an understanding of calculating clearances for blanking and forming as well as the pressures required.

**III. TOPICS TO BE COVERED:**

IV.	TOPIC DESCRIPTION	REFERENCE
	<b>Main Presswork Operations:</b>	Lecture/Notes
	Blanking	Basic Die Making
	Piercing	
	Bending or Forming	
	Drawing	
	Coining	
	Crimping	
	Deep Drawing	
	Ironing	
	<b>Miscellaneous Operations:</b>	Lecture/Notes
	Shaving	Basic Die Making
	Sizing or Burnishing	
	Straightening	
	Notching	
	Numbering	
	Broaching	
	Riveting	
	Seaming	
	Staking	
	<b>Presswork Materials:</b>	Lecture/Notes
	Steel	Basic Die Making
	Brass	
	Copper	
	<b>Location of Blanks:</b>	Lecture/Notes
	To Save Material	
	To Secure Good Bending etc.	
	<b>Punch and Die Mountings:</b>	Lecture/Notes
	Standard Die Sets	
	Subpresses	
	Main Press Only (punch & die must be located at each set-up)	
	<b>Standard Die Sets &amp; Parts:</b>	Lecture/Notes
	Shank	Basic Die Making
	Leader or Guide Pins	
	Bushings	
	Locating Stop	
	Stripper Plate	
	Knock Out Pin	

<b>TOPIC DESCRIPTION</b>	<b>REFERENCE</b>
<b>Die Set Dimensions</b> Type A, B, C	Lecture/Notes
<b>Inverted Dies</b>	Lecture/Notes
<b>Progressive Dies</b>	Lecture/Notes
<b>Compound Dies</b>	Lecture/Notes
<b>Stock Stops</b>	Lecture/Notes
<b>Strippers &amp; Pressure Pads</b>	Lecture/Notes
<b>Stripper Bolts</b>	Lecture/Notes
<b>Clearances:</b> Angular Die Clearance Punch or Die Shear	Lecture/Notes
<b>Blanking Pressure</b>	Lecture/Notes

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V. **EVALUATION METHODS:** (INCLUDES ASSIGNMENTS,  
ATTENDANCE REQUIREMENTS, ETC.)

Attendance, Initiative, Co-operation and Ability	40%
Class Test	50%
Assignments	10%

VI. **REQUIRED STUDENT RESOURCES**

Basic Die Making Text

VII. **ADDITIONAL RESOURCE MATERIALS AVAILABLE IN THE  
COLLEGE LIBRARY:**

Book Section (TITLE, PUBLISHER, EDITION, DATE, LIBRARY  
CALL NUMBER IF APPLICABLE - SEE ATTACHED  
EXAMPLE)

Periodical Section (MAGAZINES, ARTICLES)

Audiovisual Section (FILMS, FILMSTRIPS, TRANSPARENCIES)

VIII. **SPECIAL NOTES**

Students with special needs (eg. physical limitations, visual impairments, hearing impairments, learning disabilities) are encouraged to discuss required accommodations confidentially with the instructor.

Your instructor reserves the right to modify the course as he/she deems necessary to meet the needs of students.