## SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

## COURSE OUTLINE

Course Title:	Workshop Technc>logy
Code No*:	(MCH 109 -4)& MCH 214-3
Program:	Mechanical
Semester:	1 & 2
Date:	October, 1983
Author:	Ed Caple

New:

Revision:

APPROVED:

<u>-t<KA</u>& Chairperson

<u>£3 -a' - oc-.</u> Date

## MACHINE SHOP

## RELATED COURSE OF STUDY IN MACHINE SHOP PRACTICE

TEXT: - Machine Shop Training - Krar & St Amand

NO.	TOPIC OF LESSON	CH.	PAGE
	INTRODUCTION AND COURSE OUTLINE		
	Organization of the Machine Shop Safety Regulations		3-4 5-6
	<u>MEASUREMENT</u> The steel rule Decimal System (the micrometer 001") The Vernier principle .0001" The Vernier Caliper - construction - graduation		7-14 7- 8 10-12 13 13-14 14
7. 8. 9.	LAYOUT PeTinition; preparing the surface Use of Layout tools; layout table Layout operations		17-24 17 17 18-24
10. 11. 12. 13. 14. 15. 15(a) 16. 17. 18.	SELECTION AND USE OF HAND TOOLS The machinist's vise (safety jaws) The hammer; hand hacksaw Chisels—common types; sharpening Files; filing Taps in a set—National Thread Series Calculate the Tap Drill size Classification of twist drills Tapping a hole with tap drills Threading dies; threading and its pstores die Metal fasteners; wrenches		$\begin{array}{r} 34-46\\ 34-35\\ 35-37\\ 37-38\\ 38-40\\ 41\\ 42-43\\ 62 \& 162\\ 43\\ 43-44\\ 44-47\end{array}$
19. 20. 21.	<u>THE POWER SAW</u> Cut off Saw - parts; saw blades Contour cutting Bandsaw Welding a saw blade		49-56 49-50 51 53
	ASSIGNMENT QUESTIONS		57
22. 23. 24. 25. 26. 27.	THE <u>DRILL</u> PRESS —BrTTT press parts Drill holding devices Twist drill parts Systems of drill sizes Speeds and feeds of drills Cutting oils and cutting compounds		$58-70 \\ 58-59 \\ 59-60 \\ 60-61 \\ 62 \\ 62-63 \\ 63-64$

	C	H.	PAC	E
NO. 28. 29. 30. 31.	Combination drill and countersink Work holding devices Drill to a layout Countersinking; counterboring Reaming; boring; spotfacing		65 67 69 73	-65 -67 -68 69 -70 -106 3-75
32.		10	1	3-75
33.	Identification of main parts; function of each Select speeds & feeds	10		76 17-78 79-82 82
34. 35. 36. 37.	Calculate spindle speed Work-holding devices Alignment of lathe centres			82 84 85 85
38. 39. 40<	End facing Decimal equivalents; Micrometer collars Basic turning operations - rough turning - finish turning			86 90 90-91 91-92
41.	Standard Tapers used in industry			92 93-94
42. 43. 44. 45.	Taper calculations Taper turning – offset tail stock method Turn tapers and angles — using compound rest	:	10	94-98
	Fit a taper to a gauge		10	99-100
46	LATHE CHUCKS - UNIVERSAL, INDEPENDENT Chucking operations STANDARD THREAD FORMS		10	99 100-101 101-105
47. 48. 49. 50,	Thread terms Iparts of a thread) Thread formulae% calculations Thread cutting on lathe Measuring the thread for size			106 70 98
51 <b>52</b> .	Tapping a hole by power – drill press — Lathe <u>NONFERROUS METALS USED IN INDUSIRY</u> Turning soft metals Drilling and tapping non-ferrous metals			30
53. 54. 55.	Reaming non-ferrous metals		13	143 144-145
56. 57. 58.	Sharpen chisels sharpen lathes totf 61) Sharpen twist an			145-146 147

- 2 -