

REEDLEY COLLEGE MFGT 80-55075 M-W SPRING 2024

INTRODUCTION TO MACHINE SHOP

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OFFICE: IND 18
CLASSROOM: IND 17
LAB: IND 16

DESCRIPTION: VOCATIONAL MACHINE SHOP, 8 HOURS WEEKLY. CLASS MEETS IN THE MACHINE SHOP MONDAY AND WEDNESDAY 5:30 P.M TO 9:35 P.M. BASIC SHOP PRACTICES, HAND TOOLS, MEASUREMENT SYSTEMS, MATERIAL SELECTION AND TESTING, CUTOFF MACHINES, BASIC LATHE AND MILLING MACHINE OPERATION AND INTRODUCTION TO CNC TURNING AND MILLING.

EXPECTED

OUTCOMES: MFGT-80 SLO1: Practice safe shop techniques in operating both hand tools and machinery.

MFGT-80 SLO2: Calculate common mathematical problems associated with part fabrication and machinery operation.

MFGT-80 SLO3: Differentiate between acceptable and non-acceptable tolerance limits and overall work quality.

ADVISORIES: NONE

PREREQUISITES: NONE

MINIMUM STUDENT

- MATERIALS**
1. TEXTBOOK - MACHINE TOOL PRACTICES 9th ed. - KIBBEE, MEYER
 2. SAFETY GLASSES
 3. 3 RING BINDER
 4. SCIENTIFIC CALCULATOR

HOW CLASS WILL BE

- CONDUCTED:**
1. LECTURE - DEMONSTRATIONS
 2. INDIVIDUAL INSTRUCTION - SHOP WORK
 3. LABORATORY TASKS
 4. WEEKLY ASSIGNMENTS AND QUIZZES
 5. MIDTERM AND FINAL EXAMS

COURSE OUTLINE:

WEEK	DATE	CLASS	SECTION	UNIT	TOPIC	PAGES
2	1/15/24	1	C	1	SYSTEMS OF MEASUREMENT	103-106
		1				
		1	C	2	USING STEEL RULES	107-115
	1/17/24	2	C	3	USING VERNIER DIAL AND DIGITAL INSTRUMENTS	116-124
		2	C	4	USING MICROMETERS	125-145
Homework 2-Quiz 2 (pp.103-145)						
3	1/22/24	3	I	0	TURNING MACHINES	383-390
		3	I	1	THE ENGINE LATHE	391-398
	1/24/24	4	I	2	TOOL HOLDERS AND TOOL HOLDING	399-404
	Homework 3-Quiz 3 (pp.383-404)					
4	1/29/24	5	I	3	CUTTING TOOLS FOR THE LATHE	405-412
		5	I	4	LATHE SPINDLE TOOLING	413-419
		5	I	5	OPERATING THE MACHINE CONTROLS	420-424
	1/31/24	6	J	0	VERTICAL MILLING MACHINES	511-513
		6	J	1	VERTICAL SPINDLE MILLING MACHINES	514-516
		6	J	2	CUTTING TOOLS AND CUTTER HOLDERS	517-522
	Homework 4 - Quiz 4 (pp.405-424; 511-522)					
5	2/5/24	7	J	3	SETUPS ON THE VERTICAL MILL	523-529
		7	J	4	VERTICAL MILLING MACHINE OPERATIONS	530-539
	2/7/27	8	C	8	TOLERANCES, FITS, AND GEOMETRIC DIMENSIONS	
	Homework 5 - Quiz 5 (pp.523-539 ; 183-191)					
6	2/12/24	9	E	0	LAYOUT	235-243
		9	E	1	BASIC SEMI-PRECISION LAYOUT PRACTICE	244-249
	2/14/24	10	E	2	BASIC PRECISION LAYOUT PRACTICE	250-262
	Homework 6 - Quiz 6 (pp.235-262)					
7	2/19/24	11	I	6	FACING AND CENTER DRILLING	425-434
		11	I	7	TURNING BETWEEN CENTERS	435-447
	2/21/24	12	I	8	ALIGNMENT OF LATHE CENTERS	448-450
		12	I	9	OTHER LATHE OPERATIONS	451-464
	Homework 7 - Quiz 7 (pp.425-464)					
8	2/26/24	13	B	6	ID AND USES OF TAPS	67-71
		13	B	7	TAPPING PROCEDURES	72-76
		13	B	8	THREAD CUTTING DIES	77-80
	2/28/27	14	I	10	60 DEG THREAD INFORMATION AND CALCULATIONS	465-469
		14	I	11	CUTTING UNIFIED EXTERNAL THREADS	470-480
	Homework 8 - Quiz 8 (pp.67-80; 465-480)					
9	3/4/24	15			TAPER CALCULATIONS	HANDOUT
		15			TAPER EXERCISE	HANDOUT
	3/6/24	16	I	13	CUTTING TAPERS	485-495
	Homework 9 - Quiz 9 (pp.485-495)					

10	3/11/24	17	D	O	MATERIALS	193-196
		17	D	2	SELECTION AND ID OF NON-FERROUS METALS	203-208
		17	F	1	MACHINABILITY AND CHIP FORMATION	266-274
	3/13/24	18	F	2	SPEEDS AND FEEDS FOR MACHINE TOOLS	275-278
Homework 10 - Quiz 10 (pp. 193-196; 203-208; 266-278)						
11	3/18/24	19	B	0	HAND TOOLS	35-36
	3/20/24	20	B	1	ARBOR AND SHOP PRESSES AND BROACHING	37-44
		20	B	2	WORK HOLDING AND HAND TOOLS	45-53
Homework 11 - Quiz 11 (pp. 35-53)						
12	3/25/24	21	B	3	HACKSAWS	54-56
		21	B	4	FILES	57-62
	3/27/24	22	H	4	OPERATING DRILLING MACHINES	362-373
		22	H	5	INTERSINKING AND COUNTERBO	374-376
Homework 12 - Quiz 12 (pp.54-62; 362-376)						
13	4/1/24	23	H	6	REAMING ON THE DRILL PRESS	377-381
	4/3/24	24	C	5	USING COMPARISON MEASURING INSTRUMENTS	146-165
		24	C	6	USING GAGE BLOCKS	166-173
Homework 13 - Quiz 13 (pp.377-381; 146-173)						
14	4/8/24	25	C	7	USING ANGULAR MEASURING INSTRUMENTS	174-182
		25	G	0	SAWING MACHINES	301-312
		25	G	1	USING RECIPROCATING AND HORIZONTAL CUTOFF MACHINES	313-322
		25	G	3	PREPARING TO USE THE VERTICAL BAND MACHINE	326-334
		25	G	4	USING THE VERTICAL BAND MACHINE	335-340
	4/10/24				NO READING DUE	
Homework 14 - Quiz 14 (pp.174-182; 301-322; 326-340)						
15	4/15/24	26	H	0	DRILLING MACHINES	341-345
		26	H	1	THE DRILL PRESS	346-348
		26	H	2	DRILLING TOOLS	349-357
	4/17/24	27	D	1	SELECTION AND ID OF STEELS	197-208
		27	F	3	CUTTING FLUIDS	279-283
		27	F	4	USING CARBIDES AND OTHER TOOL MATERIALS	284-299
Homework 15 - Quiz 15 (pp.341-357; 197-208; 279-299)						
16	4/22/24	28	M	0	COMPUTER NUMERICAL CONTROL	659-667
		29	M	1	CNC MACHINE TOOL PROGRAMMABLE AXES AND POSITIONING SYSTEMS	668-672
Homework 16 - Quiz 16 (pp.659-672)						
18	5/13/24	30			FINAL FINAL FINAL FINAL	

GRADING:	POINTS		TOTAL POINTS
	NUMBER	EACH	
CLASS / HOMEWORK	15	20	300
WEEKLY QUIZZES	15	20	300
MIDTERM EXAM	1	100	100
FINAL EXAM	1	250	250
BINDER	1	100	100
SHOP WORK	12	20	240
HAMMER PROJECT	1	200	200
Attendance	33	4	132
TOTAL POINTS POSSIBLE			1622

DAILY POINT SYSTEM: 4 POINTS POSSIBLE PER DAY
CLASS START TARDY -2

GRADING SCALE:	1622	TO	1449	A
	1448	TO	1288	B
	1287	TO	1127	C
	1126	TO	966	D

FINAL:

Monday May 13, 2024 @ 5:30 P.M. - 9:30 P.M.
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ESSENTIAL INFORMATION: ANY ASSIGNMENT TURNED IN UP TO ONE WEEK LATE WILL RECEIVE 50% CREDIT.

HOMEWORK WILL NOT BE ACCEPTED MORE THAN ONE WEEK LATE.

EXTRA POINTS MAY BE EARNED DURING THE SEMESTER BY DOING RESEARCH PAPERS, OR EXTRA SHOP WORK OUTSIDE OF SCHEDULED LABORATORY TIME.

ATTENDANCE AND PARTICIPATION IS VERY IMPORTANT. YOU MUST BE IN CLASS IN ORDER TO PARTICIPATE AND COMPLETE ALL OF THE WORK.

IN THE EVENT OF CLASS BEING CANCELLED YOU WILL BE NOTIFIED WITH A SIGN ON THE DOOR.

CHEATING AND/OR PLAGIARISM WILL NOT BE TOLERATED. A STUDENT WILL RECEIVE NO CREDIT FOR THE ASSIGNMENT IF, IN THE OPINION OF THE INSTRUCTOR, THE INDIVIDUAL HAS CHEATED.

IF YOU CARRY A CELLULAR PHONE YOU NEED TO HAVE THE RINGER SET

IMPORTANT DATES:

8-Jan	(M)	Start of Spring 2024 semester
January 8 - March 8	(M-F)	Short-term Spring 2024 classes, first nine weeks
15-Jan	(M)	Martin Luther King, Jr. Day observed (no classes held, campus closed)
19-Jan	(F)	Last day to drop a Spring 2024 full-term class for full refund
26-Jan	(F)	Last day to register for a Spring 2024 full-term class in person with add authorization
26-Jan	(F)	Last day to drop a Spring 2024 full-term class to avoid a "W" in person
28-Jan	(Su)	Last day to drop a Spring 2024 full-term class to avoid a "W" on Self-Service
28-Jan	(Su)	Last day to add a Spring 2024 full-term class with add authorization on Self-Service
16-Feb	(F)	Lincoln Day observance (no classes held; campus closed)
19-Feb	(M)	Washington Day observance (no classes held; campus closed)
1-Mar	(F)	Deadline to apply for graduation for Spring 2024 completion
8-Mar	(F)	Last Day to drop a Spring 2024 full-term class (letter grades assigned after this date)
March 11 - May 17	(M-F)	Short-term Spring 2024 classes, second nine weeks
March 25 - March 29	(M-F)	Spring recess (no classes held, campus open Mar 25-28)
29-Mar	(F)	Good Friday observance (no classes held; campus closed) (classes reconvene Apr 1)
May 13	(M)	Spring 2024 final exams for MFGT-80
17-May	(F)	Last day to change a Spring 2024 class to/from Pass/No-Pass grading basis
17-May	(F)	End of Spring 2024 semester/commencement
27-May	(M)	Memorial Day holiday (campus closed)

POLICIES AND

PROCEDURES: FAILURE TO ATTEND CLASS

FAILURE TO ATTEND CLASS ON A REGULAR BASIS WILL ADVERSELY AFFECT YOUR PERFORMANCE IN THIS COURSE. PLAGIARISM OR CHEATING OF ANY KIND WILL RESULT IN A GRADE OF "F" FOR THIS COURSE. THERE ARE NO MAKEUP EXAMS WITHOUT PRIOR PERMISSION OF THE INSTRUCTOR.

REQUIRED READING

REQUIRED READING SHOULD BE COMPLETED BEFORE THE CORRESPONDING LECTURE/DEMONSTRATION. ALL GRADES ARE FINAL UNLESS AN ERROR IN MATH HAS BEEN MADE BY THE INSTRUCTOR. THE INSTRUCTOR RESERVES THE RIGHT TO ADJUST THE COURSE OUTLINE, SCORING, GRADING, AND CONTENT AS NEEDED.

HAVING TROUBLE?

IF AT ANY TIME YOU FIND YOU ARE HAVING TROUBLE SUCCEEDING IN THIS COURSE WHETHER BECAUSE OF A CHANGE IN YOUR LIFE CIRCUMSTANCES OR BECAUSE OF SOMETHING YOU DO NOT UNDERSTAND ABOUT THE MATERIAL - PLEASE SEE ME. THERE ARE A NUMBER OF SERVICES AVAILABLE TO ASSIST REEDLEY COLLEGE STUDENTS TO SUCCEED IN THEIR COURSE WORK. I WOULD BE HAPPY TO RECOMMEND ONE OF THESE TO YOU.

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES:

IF YOU HAVE NEEDS AS ADDRESSED BY THE AMERICANS WITH DISABILITIES ACT (ADA), OR SECTION 504 OF THE REHABILITATION ACT, PLEASE NOTIFY ME IMMEDIATELY. REASONABLE EFFORTS WILL BE MADE TO ACCOMMODATE YOUR NEEDS.

KEEP TRACK OF RETURNED WORK. YOU SHOULD SAVE ALL OF YOUR WORK UNTIL THE END OF THE SEMESTER SO YOU CAN DOUBLE CHECK THE FINAL GRADE EARNED AS RECORDED BY THE INSTRUCTOR.