

REEDLEY COLLEGE  
REEDLEY, CALIFORNIA

INDUSTRIAL TECHNOLOGY DEPARTMENT  
MANUFACTURING TECHNOLOGY CERTIFICATE PROGRAM

Basic Electricity

INSTRUCTOR: Mr. M

DESCRIPTION: Basic Electricity - 2 units, 5 hours weekly,  
9 weeks

REQUIRED BACKGROUND: None

REQUIRED MATERIALS:

1. text book: HOUSE WIRING-simplified, Floyd M. Mix  
Goodheart-Willcox, 1989.
2. other materials: Ring binder with paper, a #2 pencil  
(or equiv.), a soft eraser, 6 quiz  
strips, and 2 scantron cards.

COURSE OBJECTIVES:

1. Upon completion of this course, the student will be  
able to:
  - a. perform basic residential wiring, including the  
wiring of lighting circuits with 3-way and 4-way  
switching. Wire outlet circuits for both fixed  
and portable appliances.
  - b. hook-up and operate single phase, 120/240 volt  
motors, 240/480 volt three-phase motors, D.C.  
variable speed motors and A.C. variable speed  
motors with variable frequency drives (VFD).

METHODOLOGY:

Students will be expected to read the material in the  
chapters, complete and turn assigned problems in to the  
instructor and be prepared to discuss the assigned  
chapters. Lectures will serve the purpose of clarifying  
and expanding the reading material.

ATTENDANCE:

1. You need to attend class regularly and participate in your class. Class participation will be 100 points of your total grade.
2. Dropping from this class is YOUR RESPONSIBILITY. Failure to drop could result in a grade being issued. Remember to turn in a drop slip if you stop attending class. The ~~DEADLINE IS Wednesday~~
3. Two tardies are equal to one absence. Two absences and you will be dropped from the class.

EXAMINATIONS:

1. There will be two (2) examinations:

<u>EXAM</u>	<u>Date</u>	<u>Material covered</u>
1	Apr. 14	Units 1-14 (text)
2	May. 8	Motors Handout

POINTS:

1. 2 EXAMS at 200 points each	=	400 points
2. 6 QUIZZES at 20 points each	=	120 "
3. Homework assignments	=	242 "
4. Lab projects	=	278 "
5. Class participation	=	100 "

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TOTAL POSSIBLE = 1140 points

POINT SCALE:

1026 - 1140	=	A	(90 %)
912 - 1025	=	B	(80 %)
798 - 911	=	C	(70 %)
684 - 797	=	D	(55 %)
below 683	=	F	

To determine your level of progress at anytime, divide your accumulated points by the total points possible up to that week. Look at the assignment sheet on page 4 to find the homework points listing. If you have trouble in determining your grade level please ask the instructor to help you.

COURSE OUTLINE  
MFGT 34

WEEK	SECTION	AGENDA
1	Electrical terms and components	Lecture: Elect. terms, conductors, conduits & raceways, boxes & covers, switches and outlets.
2	Equipment and Safety	Lect. Tools & equipment, electrical safety, basic wiring systems.
3	Basic wiring	Lect. Basic house wiring codes, circuit wiring procedures, and specialized wiring.
4	Modernizing Elect. systems	Lect. Updating electrical systems and retrofitting power and lighting circuits.
5	Basic motors	Lect. Magnetic induction and basic motor operations. Manual motor starters.
6	Magnetic starters	Lect. Magnetic starters, over-load protection, and control circuits.
7	Control stations	Lect. Remote control of magnetic motor starters and multiple control stations.
8	Induction motors	Lect. Squirrel Cage induction motors. Speed, torque, current locked rotor conditions.

ASSIGNMENT SHEET

WEEK	DATE	READING ASSIGN.	HOMEWORK	PTS
1	3-17-00	Units 1-6 p. 1-38	1-9 p.10, 1-10 p.18 1-7 p.23, 1-7 p.28 1-7 p.34, 1-6 p.38	57
2	3-24-00	Units 7-10 p. 39-68	A-L p.46, 1-7 p.50 1-9 p.57, 1-10 p.68	42
3	3-31-00	Units 11-12 p. 69-106	1-12 p. 85	12
4	4-07-00	Units 13-14 p. 107-134	1-7 p. 124 & 125 1-7 p. 163	16
5	4-14-00	Handout Unit 12 p.68-73	1-10 p. 73	20
6	4-21-00 (no class)	Handout Unit 13 p.74-90	1-28 p. 90-92	56
7	4-28-00	Handout Unit 14 p.93-99	1-12 p. 99-100	24
8	5-05-00	Handout Unit 47 p.236-241	1-6 p. 241	15



Homework Points = 242