



Electrical Engineering Department

EE 208 - ELECTRICAL SYSTEMS

Second Semester 2005-2006 (Term # 052)

Instructor's Name:	<i>Mr. Umar M. Johar</i>
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Office Hours:	U. M. T. 12:00 – 01:00 PM

COURSE DESCRIPTION:

Basic electrical concepts: Ohm's Law, Kirchoff's Law, DC and AC, resistance, inductance, capacitance and three-phase system. **Electrical symbols.** Outlets, conductor sizes, types and determination of number of circuits required. **Wiring plans** for single **family dwelling**, multiple family dwellings and **commercial** and **institutional** structures.

TEXT BOOKS:

1. **"Electric Circuits Fundamentals"**, Thomas L. Floyd, 5th Ed., Prentice Hall Electronics, 2001.
2. **"Electrical Wiring Residential"**, Ray C. Mullin, Delmar Learning, 14th Ed., 2001.

REFERENCES:

1. **"Elementary Linear Circuit Analysis"**, Leonard S. Bobrow, CBS College Publishing, 1987.
2. **"Introductory Electric Circuit Analysis"**, David E. Johnson and Johnny R. Johnson, Prentice-Hall, 1981.
3. **"Designing Electrical Systems based on the 1993 NEC"**, James G. Stallcup, American Technical Publisher, INC. 1992.
4. **"Electrical Wiring Principles and Practices"**, Clyde N. Henick, 2nd Ed., Prentice-Hall INC, 1995.

5. "An Introduction to Electrical Wiring", John M. Doyle, Reston Publishing Co. INC., 1980.

TENTATIVE LECTURE SCHEDULE

Basic Electrical Circuits:

(12 Lectures)

#	Title	Chapter
1	Introduction & Definition Of Some Basic Electrical Concepts	2.2 – 2.5
2	Ohm's Law, Energy And Power	3.1 – 3.4
3	Series Circuits & Parallel Circuits	4.1 – 4.8 & 5.1 – 5.7
4	Series - Parallel Circuits & General Resistive Circuit	6.1 – 6.3
5	Introduction to Alternating current and voltages	8.1, 8.3 – 8.6
6	Capacitors	9.1, 9.3, 9.4, 9.6 &
7	Inductors	11.1, 11.3, 11.4, 11.6
8	Three Phase Systems	Hand out

Electrical Wiring:

(16 Lectures)

#	Title	Hand out Chapter
1	Conductor Sizes and Types	10
2	Switch Control of Lighting Circuits	5
3	Fuses and Circuit Breakers	1 page
4	Electrical Symbols and Outlets	1 page
5	Wiring Layout and Applications	6
6	The National Electrical Code (NEC)	1
7	Electrical Systems	2
8	Service Entrance and Equipment	2
9	Feeder Circuits	2
10	Branch Circuits	2
11	Lighting Branch Circuits	3
12	Determination of Number of Circuits Required	3
13	Special Purpose Branch Circuit	3
14	Feeders and Service Entrance Calculations	3
15	Wiring Plans of Single Family Dwellings	4
16	Wiring Plans of Multiple Family Dwellings	4

Major Examinations:

Exam # 1	Sunday March 19, 2006	In class
Exam # 2	Sunday May 07, 2006	In class

Grading Policy:

Quizzes, Assignment, and Attendance	15%
Two Major Exams (15 % each)	30%
Laboratory	20%
Design Project	05%
Final Examination	30%

LAB EXPERIMENTS:

Experiment	Title	Date
Exp. # 1	Introductory Experiment	Feb 26
Exp. # 2	Series & Parallel Circuits Relationships	March 5
Exp. # 3	Series & Parallel Connections, CDR & VDR	March 12
Exp. # 4	Equivalent Resistance: Open & Short Circuits	March 26
Exp. # 5	Electrical Power And Energy	April 2
Exp. # 6	Computer Simulation Of A DC Circuit	April 9
Exp. # 7	A DC Circuit With A Capacitor & Kirchoff's Law	April 16
Exp. # 8	Oscilloscope And AC Circuits	April 23
Exp. # 9	Three Phase Circuits	April 30
Exp. # 10	Electrical Switches And Lighting Circuits	Ma-y 14

Lab Final Exam: May 21, 2006

Topics covered from the text book titled

"Electric Circuits Fundamentals", by Thomas L. Floyd

Chapter	Sections
2	2-2, 2-3, 2-4, 2-5
3	3-1, 3-2, 3-3, 3-4
4	4-1, 4-2, 4-3, 4-4, 4-5, 4-6, 4-7, 4-8
5	5-1, 5-2, 5-3, 5-4, 5-5, 5-6, 5-7
6	6-1, 6-2, 6-3
8	8-1, 8-3, 8-4, 8-5, 8-6
9	9-1, 9-3, 9-4, 9-6
11	11-1, 11-3, 11-4, 11-6