

Syllabus
OEET 115 – Wiring Methods and Materials (5 credits)
 (OEET stands for Occupational Education, Electrical Trades.)
 Fall 2006

Instructor

Bruce McDowell, Electronics/Electrical Program Manager	E-mail: bruce@mountttaylor.com
Office phone: 287-6636 Home phone: 285-4600 (Weekdays 11 a.m. to 1:00 p.m.)	Office hours: Tue., Wed., Thu.: 1:00 to 3:00
Web site for this course: mountttaylor.com/115	Web site for NMSU Grants: grants.nmsu.edu Web site for NMSU: nmsu.edu Web site for NMSU e-mail, etc.: my.nmsu.edu

Book

Electrical Wiring, Residential by Mullin. ISBN 1-4018-5019-7

Course Description

Application of electrical code in selection of wiring materials; proper methods of installation. Corequisite: OEET 110 or consent of instructor.

Expected Outcomes From Taking This Course

After completing this course, you should be able to successfully do the following:

- Answer questions about safety, licensing, and permits.
- Answer general questions about the National Electrical Code, the American National Standards Institute, and nationally recognized testing laboratories.
- Answer detailed questions about wiring of devices to be found in many homes.
- Demonstrate correct wiring of devices to be found in many homes.
- Draw wiring diagrams for circuits of the type to be found in many homes.
- Design circuits involving more than one switch.

My Philosophy of Teaching

I believe an instructor's job is to help everyone succeed. There are several techniques I use. You will get lots of one-on-one help from me. Also, I'll do my best to make the course exciting. And, I encourage students to help each other (but, of course, not by doing work for other students!). If you find yourself getting overwhelmed, and are tempted to be absent a lot, talk to me! Or, if you think you understand the material so well that you can miss a lot of class, talk to me! If you're bored, I can give you some interesting extra credit projects to work on. Electrical books are usually written with a one-size-fits-all approach, and the English is often not all that great. Material I present during class will help overcome these deficiencies.

Assignment List

Detailed assignments will be listed on the course's Web site (see address under "Instructor" above). New assignments will be added from time to time. I have not reached perfection yet (and never will). Thus, I'm constantly striving to improve the courses I teach and don't like to have everything spelled out in advance.

The following is a week-by-week list of what we'll be covering. Because every group of students is different, it's almost impossible to spell out in advance what will be covered each week. Thus, the following list is likely to change.

Week	Week Of (Monday of the Week)	
1	8-21	Electrical symbols and outlets.
2	8-28	Electrical symbols and outlets. General information for electrical installations..
3	9-4	<i>Monday is Labor Day holiday.</i> Electrical symbols and outlets.
4	9-11	Determining the required number and location of lighting and small appliance circuits. Conductor sizes and types, wiring methods, wire connections, voltage drop, and neutral sizing for services.
5	9-18	Safety. Conductor sizes and types, wiring methods, wire connections, voltage drop, and neutral sizing for services.
6	9-25	Switch control of lighting circuits, receptacle bonding, and induction heating resulting from unusual switch connections.
7	10-2	Ground-fault circuit interrupters, arc-fault circuit interrupters, transient voltage surge suppressors, and immersion detection circuit interrupters. Luminaires, ballasts, and lamps. Example: lighting branch-circuit for front bedroom.
8	10-9	<i>Monday and Tuesday is Fall Break.</i> Examples: Lighting branch-circuit for master bedroom; lighting branch-circuits for bathrooms and hallway; lighting branch-circuit for front entry and porch;
9	10-16	<i>Tuesday is the last day to drop a course with a W (as opposed to a low grade).</i> Examples: Lighting branch-circuit and small appliance circuits for the kitchen; lighting branch-circuit for the living room; lighting branch-circuit for the study/bedroom; dryer outlet and lighting circuit for the laundry, powder room, rear entry hall, and attic; lighting branch-circuit for the garage; recreation room; lighting branch-circuit and receptacle circuits for workshop.
10	10-23	Examples: Special-purpose outlets--water pump and water heater; special-purpose outlets for ranges, counter-mounted cooking unit, and wall-mounted oven; special-purpose outlets--food waste disposer and dishwasher; special-purpose outlets for the bathroom ceiling heat/vent/lights, attic fan, hydromassage tub. gas and oil central heating systems.
11	10-30	Television, telephone, and low-voltage signal systems; heat, smoke, and carbon monoxide detectors, fire alarms, and security systems. Supplemental material: computer network wiring.
12	11-6	Service-entrance equipment; overcurrent protection--fuses and circuit breakers; service-entrance calculations. Supplemental material: computer network wiring.
13	11-13	<i>Friday is the last day to withdraw from the university.</i> Swimming pools, spas, hot tubs, and hydromassage baths; wiring for the future: home automation systems.
14	11-20	<i>Wednesday - Friday is Thanksgiving holiday.</i> Standby power systems.
15	11-27	Re-visiting of topics already covered; additional topics.
16	12-4	Re-visiting of topics already covered; additional topics. Review of the course.
17	12-11	<i>Final Exam Week</i>

Components of Your Grade for the Class

Homework and class exercises	20%
Lab work	30%
Surprise quizzes/skill demonstrations (Relax, I have to make them easier than non-surprise quizzes!)	30%
Instructor's evaluation (Includes attendance, extra credit, giving help to other students, and getting help from other students. Will normally be used only to raise your grade if warranted. Only in rare cases will it have a negative effect on your grade.)	10%
Final Exam	10%
Total	100%

Grading Scale for The Course	Why This Grading Scale?
95 - 100% A	I believe that the basics are highly important, and I stress them a lot in quizzes and assignments. My quizzes and assignments are easier than they would be with the more common 90%=A, 80%=B, etc. grading scale. Because of this, the 90%=A scale results in too many A's and B's. The good news is that with my grading scale, you'd have to be a total goof-off to get lower than a C in the class! I feel that anyone who has mastered the basics deserves at least a C.
90 - 94% B	
70 - 89% C	
60 - 69% D	
0 - 59% F	

Homework & Class Exercises

1. Be sure to put your **name, assignment number, and date turned in** in the **upper right-hand corner** of any assignments you submit. [2 percentage points lower if not done this way.]
2. If you send me any e-mails, be sure to put **"115" at the very beginning of the subject line.**
3. For the first fifteen class periods that an assignment is **late**, two percentage points will be subtracted for each class period late. If your assignment is 30 or more days late, you will only lose 30%. No credit will be given for late assignments turned in during the last two weeks.
4. **Class exercises cannot be made up.** However, your Extra Credit Grade will be substituted for the first three class exercises you miss.
5. At the end of the semester, I will tally up points for assignments and class exercises. I will then make a **grading curve for assignments and for class exercises** (i.e., so many points = A, so many = B, etc.)

Quizzes

- Written quizzes will usually have several questions based on *Things to Remember* pages on the Web site.
- Some quizzes will be hands-on exercises where you will demonstrate skills you have learned.
- Instead of makeup quizzes, I will use your Extra Credit Grade for any quizzes you've missed.
- The final exam will have both a written part and a hands-on part.

Extra Credit

After the course is over, I will tally-up extra credit points. I will then make a grading curve to determine how many points for an A, how many for a B, etc. Extra credit will help you in the following ways:

- Part of the Instructor's Evaluation score
- Used as your grade when you miss a quiz or a class exercise (first three class exercises only).

Attendance and Punctuality

When an employer sees that someone has taken classes at NMSU, we want them to know that this person has good work habits. Thus, I'll be expecting you to have good attendance and to arrive on time. Sometimes the "be absent &/or late" disease spreads through a class. Hopefully this won't happen in our class. If it does, however, I'll be switching from a tolerant mode to a "give minus points for absences or tardies" mode. So, do what you can to show up and be on time. Electronics/electrical classes are not like some other classes where you can read the book and

catch up. Much of the learning in our class will be of a hands-on nature, with class exercises and interaction with the instructor being an important part.

Important Notes to Students

- **Kids:** Don't let your kids run wild while you're taking a class. They must be supervised at all times.
- **Americans With Disabilities Act (ADA):** If you have, or believe you have, a disability and would benefit from any accommodation(s), you may wish to register with the Student Services Office on the first floor of Martinez Hall. All medical information will be treated confidentially.

After you have registered, please make sure that your instructors receive a copy of the accommodation memorandum from Student Services within the first two weeks of class. It will be your responsibility to inform your instructors or the office of Student Services (in a timely manner) if the services/accommodations provided are not meeting your needs.

If you have a condition that may affect your ability to exit safely from the premises in an emergency or that may cause an emergency during class, you are encouraged to discuss any concerns with Ms. Irene Lutz, Campus Student Services Officer at 287-6629, or with your instructor(s).

Feel free to call Ms. Lutz at the number above or Mr. Paul Gayle-Smith, NMSU Director of Institutional Equity, at (505)646-3635 with any questions about the Americans with Disabilities Act (ADA), and/or Section 504 of the Rehabilitation Act of 1973.

- **Academic misconduct:** Any Student found guilty of academic misconduct shall be subject to disciplinary action. Academic misconduct includes, but is not limited to, the following actions: cheating; plagiarism; unauthorized possession of examinations, reserve library materials, or laboratory materials; unauthorized changing of grades on an examination, instructor's grade book, or grade report; nondisclosure or misrepresentation in filing out applications or other college records; or violation of computer use policies. The following disciplinary actions and sanctions may be imposed for any of the above infractions or regulations: disciplinary probation, disciplinary suspension, dismissal, expulsion.
- **The temptation is great to turn in work done (in all or in part) by other students. I frequently catch students who do this. Don't take the chance!** Except for such cheating, I'm a very merciful instructor and will give you lots of help during class and office hours to insure that you do well. Talk to me if you're worried about getting a low grade.