



INST 1550 Applied Basic Ac Circuits Section Name Section Credit Hours Credits

Syllabus

Course Information

Meeting times and location: section meeting_times section location

Catalog description: This course covers the alternating current theory including inductive/capacitive reactance in series/parallel RLC circuits. It also covers AC generator and motor theory, three phase power, and transformer theory. The students are expected to perform measuring and troubleshooting on these circuits.

Prerequisites: Take INST-115

Terms offered: Fall and Spring

Section-specific Course Description:

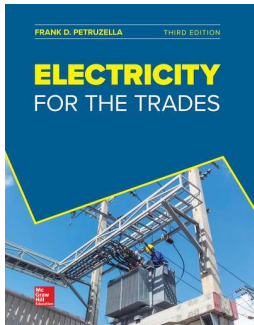
Course Level Objectives

Upon successful completion of the course, the student will be able to...

1. Use basic test equipment to measure electrical components and analyze circuit values from actual circuits.
2. Use an oscilloscope, function generator, digital multimeter among other types of equipment.
3. Explain the difference between AC and DC.
4. Calculate and measure the instantaneous values of the AC sine wave, including the RMS, peak, and peak-to-peak voltage values.
5. Analyze AC circuits which contain combination of resistance, capacitance and inductance.
6. Explain and demonstrate knowledge of transformer action.

7. Calculate current, voltage, and power relationships at the input and output of both ideal and actual transformer circuits.
8. Explain AC generator and motor fundamental theory.
9. Calculate three phase power characteristics, such as phase to phase and phase to ground voltages/current.

Required Texts and/or Materials



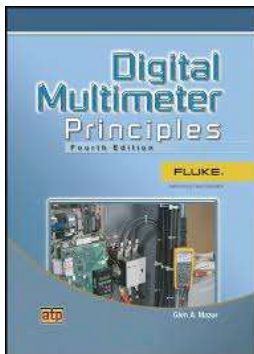
Bundle: Electricity For The Trades

978-1-2591-4013-6

Frank D Petruzzella

McGrawHill

3rd



Digital Multimeter Principles

9780826915061

Glen Mazur

Amer Technical Pub

2010-01-01

Required Technology and Software

- Canvas
- Chrome, Safari, or Firefox

Course Requirements

Students need to bring their own -

- Safety eyewear

- Texas Instruments TI-30XIIS Scientific Calculator

Students will do the following activities:

- Lectures
- Hands-on labs
- Computer-based training
- Group activities
- Presentations, etc.

Other Classroom Policies and Expectations

The student will receive a copy of School of Energy General Policy, Waiver and Release form, and other related lab policies on the first day of the academic semester. The students are expected to read, acknowledge and be familiar with these policies and expectations.

To support the program mission of "Preparing students for successful careers as ICE technicians across various industries," a series of activities, events, and workshops has been designed alongside the courses. These will be integrated into different classes based on their relevance and the students' progress. Participation is encouraged, with certain activities being mandatory and counted toward attendance, assignments, or as prerequisites for specific courses.

Grading

The grading percentage and weight for each individual class is posted on the Canvas.

- A student must earn a grade "C" or higher in all courses in order to receive a degree.
- Grading Scale:
 - A 100-91
 - B 83-90
 - C 75-82
 - D 67-74
 - F Below
- Late assignment will be penalized 10% per day.
- Check with your class instructor(s) for any additional grading policy for that class.

To determine final grades use the calculations above along with the table below...

Requirement Quiz	5%
Attendance	25%
Challenges	15%
Quizzes	20%
Final Exam	20%
Labs	15%
Total	100%

Course Time Commitment

8-12 hours outside class per week.

Canvas Participation and Expectations

Check Canvas daily.

Participation and Attendance Policy

INSTRUMENTATION CONTROL & ELECTRICAL TECHNOLOGY

1. Attendance is 25% of the total grade. Attendance is recorded daily.
2. Attendance is graded in a 4-point format:

4	Arrive On-time, Participated the full session
3	Arrive Late or Leave Early
2	Arrive Late and Leave Early
1	Missed either class or lab or missed an hour of class
0	Absent

1. The instructor determines if the absence can be excused using situational awareness based on the communication had with the student. Documentation may be requested by the instructor.
2. Make-up Labs are allowed if the students have had appropriate communication with the instructors. The students need to make an appointment with the instructors for the make-up labs. If the students do not show up for the make-up lab appointment, no more make up labs will be granted for the rest of the semester.
3. To receive a final grade above "C," the attendance should be higher than 70%.

Instructor Response Times & Regular Interaction Expectations

Within 24 hours Monday - Thursday

Key Dates to Remember

[Full Academic Calendar](#)

Course Schedule

Download the daily lesson and activity schedule from Canvas on the first day of the class.

Technical Support

Technical support is available through the San Juan College Help Desk 24/7/365. The help desk can be reached at 505-566-3266 or by creating a ticket at [San Juan College Help Desk](#).

For password reset and Canvas support, visit the [Student Technology Guide](#) website.

Accessibility/Privacy Policies for all Technology Tools Used

[Accessibility/Privacy Policies for all Technology Tools Used](#)

Student Support

At San Juan College, we are committed to supporting your academic success and overall well-being. We recognize that college life can be challenging and stressful, impacting both learning and personal health. We are here to help you succeed.

Academic Support and Resources

We provide a range of academic support services to help you stay on track on your educational journey. Free resources include tutoring, computer loans, life skills workshops, and so much more. Visit the [Academic Support and Resources](#) webpage to learn more about support and resources available through Academic Advising, the Tutoring Center, the Student Resource Center (formerly Student Achievement Center) and the Testing Center.

Student Support and Resources

If you or someone you know could benefit from counseling, accessibility services, career exploration, veteran transitional assistance, or any of our other support services, visit the [Student Support and Resources](#) webpage where you'll find detailed information about various resources available to you as an SJC student.

We encourage you to take advantage of these free resources to enhance your college experience and ensure your success.

College Policies and Resources for Current Students

The [Student Handbook](#) provides information on student support, student organizations, and student conduct policies at San Juan College.

The San Juan College catalog outlines the [Academic Policies](#) students need to know.

Healthy and Safe Practices for Being on Campus

We want a healthy and safe campus for students, faculty, staff, and guests.

Contagious diseases and your responsibility:

If you have COVID-19 symptoms, fever, flu or even the common cold, you should stay home. Do not come to campus if you are feeling sick. Contact your instructor about missing class (and review your instructor's policies on missed or late work). Being sick does not necessarily excuse you from completing your work on time.

Safety on campus and your responsibility:

If you are on campus and experience or witness an emergency, call 9-1-1 first and then the Department of Public Safety at 505-566-3333 (or just 3333 if calling from a campus phone).

When you are on campus, be aware of your surroundings. If you need an escort to your vehicle, call 505-566-4444 (DPS non-emergency line) or 505-215-3091 (officer on duty line).

The College will send information for campus emergencies through SJC AlertAware, email and the webpage. Stay informed and stay safe.

Inclement Weather Information

Students will receive notification of class delays and cancellations due to inclement weather via the SJC AlertAware and SJC student email. Face-to-face classes will not meet in person; however, students are advised to check with instructors about alternative meeting options, as some may choose to meet via zoom. Hybrid classes will meet as scheduled via zoom. For questions regarding your class delay or cancelation, please contact your instructor.

Online Course Fee

Online Courses - San Juan College requires all online courses to include some form of assessment to demonstrate the mastery of course objectives. This could include exams, capstone projects, e-portfolios, presentations, final papers or other appropriate assessments. The use of a proctoring platform, plagiarism detection software or other method to ensure that assessments are completed by the enrolled student is required.

A course fee of \$5.00 is assessed for all online courses at San Juan College to cover the cost of the above services. Students who are required to take a proctored exam and choose to use a physical testing center outside the SJC Testing Center or SJC Disability Services will be responsible for the cost of using that center.