

Spring 2019

ENT1201 Introduction to Electricity for Live Entertainment Syllabus

Miguel A. Valderrama

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New York City College of Technology
Entertainment Technology Department
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ENT-1201 Introduction to Electricity for Live Entertainment, Section D2

SPRING 2019

Professor: Miguel Valderrama

Office: V203

Email: mvalderrama@citytech.cuny.edu

Office Hour(s): Wednesdays 2pm-3pm (V-203 ENT)

Class Meeting Time:

Tuesdays, 4pm – 5:50pm, V-103A

1 hour 50 minutes lecture, 1 credit

Course Description:

ENT 1201 is an introduction to Electrical Theory supported on practical examples and emphasizing the safe use of electricity in entertainment and media. This course also covers a quick overview of the most basic devices that manipulate and transform electricity in modern life like Generators, Transformers, Motors, etc. Electrical fundamentals such as **voltage, current, power** and **resistance** are introduced. **Ohm's law** and the **Power law** are covered, using practical examples from the field. Simple **electrical circuits**, including **series and parallel**, are introduced. Specific methods of power generation and distribution are covered.

Grades:

Your grade will be determined as follows:

Tests: Test # 1 (20%), Final Test (30%)	50%
Electrical Component paper	25%
Quizzes + HW	15%
Class Participation/Attitude	10%

Note: If you miss a quiz or test due to an unexcused absence, you will receive a zero for that test or quiz. If the student has a legitimate excuse (medical) for the absence, he or she will have the chance to change that grade for the Midterm and Final exams only. The test will have to be taken no later than a week after the original date of the test and during the professor's office hours. There are up to **seven quizzes** that are typically given to ensure that you do the reading, and may contain questions not covered in class but assigned from the book. Do the reading!

If a student was not able to submit an assignment or a project on time, he or she will have the chance to present it a week after (following class to the original due date of the assignment). The grade on that assignment or project will be reduced ten (10) points (same as one letter grade) for lateness. No projects or assignments will be accepted more than one week late from the original due date.

Attendance Policy:

If you have a legitimate reason for missing a class, you must contact me

mvalderrama@citytech.cuny.edu at least one week before that class begins. Everyone in life experiences adversities. If a student misses a class due to an emergency, the student will be responsible for communicating as soon as they can. Also, students will be responsible for updating themselves with the content viewed in that class. Being on time also counts critically, since the quizzes are given during the first five minutes of the class. So please be on time! Being late will not only impact a student's grade but also will impact their capacity of getting re-hired once they start their professional life.

Course Expectations

After taking this class, the student will be able to...	This will be demonstrated by...
Systems: Understand and Navigate Systems	Identify components of simple circuits.
Apply information from a variety of sources.	Students will use textbook, electrical codes, manuals, and internet searches in different homework assignments.
Employ quantitative reasoning	Perform electrical calculations to determine voltage, amperage, wattage and resistance of a variety of different circuits. Word problems of real world problems are used.

It is expected for each student taking a one credit class to spend AT LEAST two (2) hours of work outside class. This includes reviewing notes, websites, OERs and doing the homework assigned.

As a college student, you are expected to know how to resolve basic math operations; be able to write a self sufficient paper explaining, describing and commenting on any assigned topic related to Electricity for Live entertainment. Use your judgment when presenting a report to the professor, you should be able to deliver information clearly and using the appropriate grammar and compositional rules.

Learning Outcomes

Gen Ed

Weekly Topics Spring 2019

	Date	Day	Topics	Assignments	Quizzes and Homework	OER Web Resources
1	01/29	Tue	<ul style="list-style-type: none"> ❖ Introduction ❖ Electron theory ❖ Materials and conductivity ❖ Magnets and Magnetism ❖ Electromagnetism and its applications. 		- Quiz # 1 (At the end of class)	<ul style="list-style-type: none"> • What is Electricity. Wisconsin University. • Semiconductors fundamentals- James Fiore. Chapter 1 pages 14-27 • All about Circuits (AAC) Chapter 1 Basic concepts of Electricity – Static Electricity • All about Circuits (AAC) Chapter 1 Basic concepts of Electricity – Conductors, Insulators and Electron flow
2	02/05	Tue	<ul style="list-style-type: none"> ❖ Electricity ❖ Electrical production ❖ AC and DC ❖ Power conversion ❖ Semiconductors and LEDs ❖ Batteries 	- Electrical component Project assigned	- Quizzes # 2 and 3	<ul style="list-style-type: none"> • All about Circuits (AAC) - Chapter 14- Permanent Magnets • All about Circuits (AAC) - Chapter 15 – Magnetic fields and inductance • LG – Structure of Rechargeable battery • Battery Safety and Protection overview – Texas Instruments
	02/12	Tue	No Classes - College is closed			
3	02/19	Tue	<ul style="list-style-type: none"> ❖ The Electrical Circuit ❖ Voltage, Current and Resistance ❖ Electrical Formulas ❖ Ohm's Law ❖ Watts and the Power Equation 	- Electrical component project B.B. Submissions due	- Quizzes # 4 and 5 - Home Work # 1 assigned	<ul style="list-style-type: none"> • What are Electrical Circuits (AAC) • Ohm's Law interactive by Wisc Online (Wisconsin University)
4	02/26	Tue	<ul style="list-style-type: none"> ❖ Test # 1 ❖ Review of test #1 		- Quizzes # 6 and 7 - Home Work # 1 Due	
5	03/05	Tue	<ul style="list-style-type: none"> ❖ Series Circuits ❖ Parallel Circuits ❖ VIRP Tables ❖ Test # 1 review 	- Electrical component paper Due	- Quizzes # 8 and 9 - Homework # 2 assigned	<ul style="list-style-type: none"> • Series Circuits – AAC Video (All about Circuits) • Parallel Circuits – AAC Video (All about Circuits)
6	03/12	Tue	<ul style="list-style-type: none"> ❖ Over-current protection devices ❖ Grounding ❖ Entertainment Power overview 		- Quizzes # 10 and 11 - Home Work # 2 due	<ul style="list-style-type: none"> • AC Vs DC (Chapter 20.5 Openstax) • NEC (National Electrical Code) Article 520 (You are required to create a username and password for free access) • Portable cable or cord? Bob Luther, Protocol Magazine Fall 2018- Page 60 • DC Power: Myths, perils and best practices, James David Smith, Protocol Magazine, Fall 2018 – Pages 22-28

	<u>Date</u>	<u>Day</u>	<u>Topics</u>	<u>Assignments</u>	<u>Quizzes and Homework</u>	<u>OER Web Resources</u>
7	03/19	Tue	- Test # 2 Review of test #2			

Academic Integrity Policy (College Policy)

Students and all others who work with information, ideas, texts, images, music, inventions, and other intellectual property owe their audience and sources accuracy and honesty in using, crediting, and citing sources. As a community of intellectual and professional workers, the College recognizes its responsibility for providing instruction in information literacy and academic integrity, offering models of good practice, and responding vigilantly and appropriately to infractions of academic integrity. Accordingly, academic dishonesty is prohibited in The City University of New York and at New York City College of Technology and is punishable by penalties, including failing grades, suspension, and expulsion. The complete text of the College policy on Academic Integrity may be found in the catalog.