

Electrical Power Distribution (ELPT 2339)

CREDIT

3 Semester Credit Hours (1 hour lecture, 6 hour lab)

MODE OF INSTRUCTION

Face to Face

PREREQUISITE/CO-REQUISITE:

ELPT 1321

COURSE DESCRIPTION

Design, operation, and technical details of modern power distribution systems including generating equipment, transmission lines, plant distribution, and protective devices. Includes calculations of fault current, system load analysis, rates, and power economics.

COURSE OBJECTIVES

Upon completion of this course, the student will be able to:

Explain major parts of utility systems; compare overhead systems versus underground systems; discuss mechanical design considerations to meet codes, standards, climate, and terrain relating to the utility systems; explain considerations for utility line; analyze energy economics; explain how smart grid technologies and standards effect power distribution systems.

INSTRUCTOR CONTACT INFORMATION

Instructor:	Russell Koenig
Email:	rwkoenig@lit.edu
Office Phone:	409-245-8346
Office Location:	1355 MLK Silsbee, TX 77656
Office Hours:	Tuesday & Thursday 7:30-8:00, 5:00-5:30

REQUIRED TEXTBOOK AND MATERIALS

None

ATTENDANCE POLICY

- Class attendance is important to obtain the educational objectives of this course. Regular attendance and being on time for classes will have a positive effect on your academics and employment opportunities.
- **Two absences** will result in 1 letter grade drop, **three absences** drop 2 letter grades and **four absences** result in an F for the semester.

Approved:



**LAMAR INSTITUTE
OF TECHNOLOGY**

DROP POLICY

If you wish to drop a course, you are responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course, you will earn an "F" in the course.

COURSE CALENDAR

DATE	TOPIC	READINGS (Due on this Date)	ASSIGNMENTS (Due on this Date)
9/6/2024	URD Systems	9/6/24	
9/13/24	URD Homework		9/13/24
9/17/24	URD Exam		9/17/24
9/19/24	Metering	9/19/24	
9/24/24	Metering Homework		9/24/24
10/1/24	Metering Exam		10/1/24
10/8/24	Substation	10/8/24	
10/15/24	Substation Homework		10/15/24
10/24/24	Substation Exam		10/24/24
11/12/24	URD Practical 1		11/12/24
11/26/24	URD Practical 2		11/26/24

**Dates are subject to change at the instructors discretion.*

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

Activity	Percentage
Daily grades	20%
Metering Exam	20%
Underground Exam	20%
Underground Practical 1	15%
Underground Practical 2	15%
Substation Exam	10%
Total	100%

GRADE SCALE

- 90-100 A
- 80-89 B
- 70-79 C
- 60-69 D
- 0-59 F

TECHNICAL REQUIREMENTS

The latest technical requirements, including hardware, compatible browsers, operating systems, etc. can be online at <https://lit.edu/online-learning/online-learning-minimum-computer-requirements>. A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of online technology and resources.

DISABILITIES STATEMENT

The Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. LIT provides reasonable accommodations as defined in the Rehabilitation Act of 1973, Section 504 and the Americans with Disabilities Act of 1990, to students with a diagnosed disability. The Special Populations Office is located in the Eagles' Nest Room 129 and helps foster a supportive and inclusive educational environment by maintaining partnerships with faculty and staff, as well as promoting awareness among all members of the Lamar Institute of Technology community. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409)-951-5708 or email specialpopulations@lit.edu. You may also visit the online resource at [Special Populations - Lamar Institute of Technology \(lit.edu\)](#).

STUDENT CODE OF CONDUCT STATEMENT

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. The *LIT Catalog and Student Handbook* may be accessed at www.lit.edu. Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document.

ARTIFICIAL INTELLIGENCE STATEMENT

Lamar Institute of Technology (LIT) recognizes the recent advances in Artificial Intelligence (AI), such as ChatGPT, have changed the landscape of many career disciplines and will impact many students in and out of the classroom. To prepare students for their selected careers, LIT desires to guide students in the ethical use of these technologies and incorporate AI into classroom instruction and assignments appropriately. Appropriate use of these technologies is at the discretion of the instructor. Students are reminded that all submitted work must be their own

original work unless otherwise specified. Students should contact their instructor with any questions as to the acceptable use of AI/ChatGPT in their courses

STARFISH

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also login to Blackboard or MyLIT and click on the Starfish link to view academic alerts and detailed information. It is the responsibility of the student to pay attention to these emails and information in Starfish and consider taking the recommended actions. Starfish is used to help you be a successful student at LIT.

ADDITIONAL COURSE POLICIES/INFORMATION

1. No food, drinks in class.
2. Daily lab grades cannot be made up.
3. No make ups for Lab tests.
4. Any written test retake has an 80 points as the maximum grade.
5. LIT is a tobacco free campus- no tobacco products allowed
6. Students must follow safety rules and procedures at all times. Failure to follow safety rules will require disciplinary action not limited to expulsion from LIT.
7. Students must have and wear all required clothing including climbing boots at all times, and have PPE and tools for participation in class and Lab.
8. Turn off all Cell Phones during class, lab and when on the field. Ear buds and smart watches are to be put away during class, lab and when on the field. Unauthorized cell phone, ear bud, and/or smart watch use will result in a 0 for the daily grade.
9. Do not bring children to class.
10. Cheating of any kind will not be tolerated. Students caught cheating or helping someone to cheat can and will be removed from the class for the semester. Cheating can result from expulsion from LIT.
11. Internet Usage
 - a. Classroom computers have access to the internet.
 - b. Student usage of the internet will be monitored.
 - c. Proper usage of the internet will be allowed. Used for classroom research or as directed.
 - d. Any unauthorized use of the internet will not be tolerated.
 - e. Improper usage of the internet, such as profanity, pornography, gambling, etc... will result in disciplinary action not limited to expulsion from LIT.
12. Horseplay and fighting will not be tolerated. Participating in horseplay and/or fighting will require disciplinary action not limited to expulsion from LIT.
13. Hard hat stickers are allowed. However, if they have any of the following they are prohibited: Profanity, nudity, drugs, depictions of violence.