Energy Management (HART 1451)

CREDIT

4 Semester Credit Hours (2 hours lecture, 6 hours lab)

MODE OF INSTRUCTION
Hybrid

PREREQUISITE/CO-REQUISITE:
None

COURSE DESCRIPTION
Study of basic heat transfer theory; sensible and latent heat loads; building envelope construction; insulation, lighting, and fenestration types; and conduct energy audit procedures. The course also develops energy audit recommendations based on local utility rates, building use, and construction. Laboratory activities include developing energy audit reports, installing energy saving devices, and measuring energy consumption.

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

1. Calculate sensible and latent heat loads
2. Calculate heat transfer characteristics.
3. Install energy saving devices.
4. Measure energy consumption.

Demonstrate electrical safety

INSTRUCTOR CONTACT INFORMATION

Instructor:	Robert Sherman
Email:	rlsherman@lit.edu
Office Phone:	(409)839-2004
Office Location:	Tommy William Building ITC 2 room 102
Office Hours:	5-5:30 PM Tuesday & Thursday

REQUIRED TEXTBOOK AND MATERIALS
SKILLMILL Online digital learning resource provided by Lamar Institute of Technology.

Approved: DG/1.18.2023

Modern Refrigeration and Air Conditioning textbook by Althouse, Turnquist, and Bracciano, either of the two latest editions

ATTENDANCE POLICY
20% of class meetings

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)
WEEK 1-2	HVAC SAFETY	SKILLMILL	SKILLMILL ASSIGNED
WEEK 2-3	INTRO TO REFRIGERATION SYSTEMS	SKILLMILL	SKILLMILL ASSIGNED
WEEK 2-3	TEMPERATURE PRESSURE & HEAT	SKILLMILL	SKILLMILL ASSIGNED
WEEK 3-4	BASIC HVAC TOOLS	SKILLMILL	SKILLMILL ASSIGNED
WEEK 3-4	EVAPORATORS AND CONDENSERS	SKILLMILL	SKILLMILL ASSIGNED
WEEK 4-5	METERING DEVICES	SKILLMILL	SKILLMILL ASSIGNED
WEEK 4-5	COMPRESSORS	SKILLMILL	SKILLMILL ASSIGNED
WEEK 5-6	HVAC MAINTENANCE	SKILLMILL	SKILLMILL ASSIGNED
WEEK 5-6	DUCTING AND AIRFLOW	SKILLMILL	SKILLMILL ASSIGNED
WEEK6-7	TROUBLESHOOTING MOTORS	SKILLMILL	SKILLMILL ASSIGNED

COURSE EVALUATION
Final grades will be calculated according to the following criteria:

- DICUSSION POSTS 5%
- HOMEWORK/ASSIGNMENTS (KC) 20%
- QUIZZES (FKC) 10%
- EXAMS 25%
- LAB/PROJECTS 40%

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

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.

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

Course Requirements

1. Homework assignments
2. Hands on lab activities
3. Use of Blackboard and other Web based platforms and resources
4. It is require to complete a safety policy form

Course Policies

1. No horse playing tolerated, always maintain a safe learning environment.
2. No open foot shoes, sandals, or flip-flops: closed foot shoes *only*.
3. No smoking, eating, or sleeping will be tolerated during class; LIT is a tobacco free campus
4. No rings or other jewelry and lanyards worn exterior that can be a lab hazard.
5. No unauthorized use of cell phones and computers during class.
6. Safety glasses or goggles and gloves are required while working in the lab
7. No make-up for missed exams; but lowest written exam score will be dropped from final grade
8. Due dates are *final*, acceptance of late work will be instructor's discretion
9. Two times tardy will result in an absence; always notify the instructor for excused absences
10. Executed completion of the HVAC Safety Policy and Procedure Form required before working in Lab.