Ergonomics and Human Factors in Safety (OSHA 2305)

CREDIT
3 semester credit hours (3 hour lecture)

MODE OF INSTRUCTION
Face to Face. Wednesday 7.00pm – 9.55pm

PREREQUISITE/CO-REQUISITE:
Passed the writing portion of TSI or other accepted testing instrument.

COURSE DESCRIPTION
The relationship of human behavior and ergonomics as applied to workplace safety.

COURSE OBJECTIVES
Upon completion of the course the student will be able to:
1. Explain the psychology of human behavior as it relates to workplace safety.
2. Identify ergonomic hazards; recommend appropriate controls.
3. Relate the human and workplace factors which contribute to ergonomic hazards.

INSTRUCTOR CONTACT INFORMATION

Instructor:	**R. Peter Whittaker MHS REHS**
Email:	rpwhittaker@lit.edu
Office Phone:	409 839 2937
Office Location:	MPC 243
Office Hours:	**Monday – Thursday 2.00-5.00pm. Friday 11.00am-12.00pm (Appointment Recommended).**

REQUIRED TEXTBOOK AND MATERIALS
1. ERGONOMICS: Foundational Principles, Applications, and Technologies Author: Pamela McCauley Bush, PhD, CPE. CRC Press. ISBN: 978-1-4398-0445-2.
2. USB Flashdrive.

ATTENDANCE POLICY
Attendance is required for all scheduled lectures and activities. Attendance and participation account for 10% of the class grade (as shown in course evaluation). An excused absence will only be granted if the student provides a written justification (for example, by email) which is vetted and approved by the instructor (such as a sickness/injury, or job related requirement).

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 1/18/23	Course Introduction and Policies. Defining Ergonomics and human factors in safety.	**Week 1 Powerpoint**	
Week 2 1/25/23	Foundational Ergonomics	**Week 2 Powerpoint** Chapter 1	
Week 3 2/1/23	Systems of the Body	**Week 3 Powerpoint** Chapter 2 Pages 37-47	
Week 4 2/8/23	Muscular Work and Nervous Control of Movements	**Week 4 Powerpoint** Chapter 4 Pages 106-112	
Week 5 2/15/23	**Exam 1 (2/15/23).** Followed by Anthropometry	**Week 5 Powerpoint** Chapter 5	**Exam 1 On Week 1 – 4 Material Wednesday 2/15/23**
Week 6 2/22/23	Design of Workplaces and Handtools	**Week 6 Powerpoint** Chapter 6	
Week 7 3/1/23	Work-Related Musculoskeletal Disorders (WMSDs)	**Week 7 Powerpoint** Chapter 7	
Week 8 3/8/23	Heavy Work & Evaluating Physical Workloads and Lifting	**Week 8 Powerpoint** Chapter 8 Pages 241-255	
Week 9	**SPRING BREAK (NO CLASSES)**		
Week 10 3/22/23	Manual Material Handling and NIOSH Lifting Equation	**Week 10 Powerpoint** Chapter 8 Pages 258-266	**Outline of Proposal for Class Presentation to be submitted in writing on Wednesday 3/22/23**
Week 11 3/29/23	**Exam 2 (3/29/23).** Followed by intro. to Job Demands: Workplace Stress and Fatigue	**Week 11 Powerpoint** Chapter 8 Pages 267-275	**Exam 2 On Week 5 – 10 Material Wednesday 3/29/23**
Week 12 4/5/23	Job Demands: Workplace Stress and Fatigue	**Week 12 Powerpoint** Chapter 8 Pages 267-275	
Week 13 4/12/23	Information Ergonomics, Controls, and Displays	**Week 13 Powerpoint** Chapter 9	
Week 14 4/19/23	How to Implement An Ergonomics Program	**Week 14 Powerpoint**	

Week 15 4/26/23	Start Class Presentations of Selected Topic **(4/26/23)**		**Class Presentations of Selected Topic commence, or printed OSHA 10 hour certificate of completion brought to class.**
Week 16 5/3/23	**Exam 3 (5/3/23).** Followed by conclusion of Class Presentations of Selected Topic.		Exam 3 On Week 11 – 14 Material Wednesday 5/3/23
Week 17 5/10/23	**Comprehensive Final Exam (5/10/23)**		Comprehensive Final Exam Wednesday 5/10/23

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

1. Class Attendance and Participation   10%
2. Three Class Tests (3 x 20%)   60%
3. Class Presentation of Selected Topic/Instrument   10%
4. Final Exam   20%

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.

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.