

DEPARTMENT OF INDUSTRIAL ENGINEERING AND MANAGEMENT
MEHRAN UNIVERSITY OF ENGINEERING AND TECHNOLOGY, JAMSHORO

Title of subject	:	Occupational Ergonomics	INM 703	(3+0)
Disciplines	:	Industrial Engineering and Management		
Semester	:	(1 st Semester 1 st Year)		
Effective	:	21S-Batch and onwards		
Credit Hours	:	Th: 03	& Pr: 00	
Marks	:	Th: 50	& Pr: 00	
Minimum Credit Hours	:	42 (For Theory)		

Aims: The Aim of this course is to understand, the integration, interdependency and inter-reliance of the physical infrastructure and the human anthropometrical interconnection and coordination.

Objectives: The course enables the students to

- Understand and analyze man-machine interaction, including an introduction to the relevant underlying human sciences.
- Apply various techniques of Ergonomics to evaluate the effectiveness

Contents:

Introduction: Principles of Ergonomics, Human Characteristics Relevant to Ergonomics, the system approach and aspects of Ergonomics.

Application of Ergonomics in the Design: Role of Human Factors Engineering in Artificial Intelligence, anthropometry, type of anthropometry, body dimensions of various organs, failure of design, anthropology and its types.

Cognitive Ergonomics: Basic cognitive capabilities and limitations of the workers, environmental situation and limitations conducting and ergonomic assessment, developing an ergonomic program.

Environmental Ergonomics: Climatic factors, sound and its measurements, effects of noise on various organs, principles of good lighting.

Workplace Ergonomics and Controls: Ergonomic issues related to posture, materials Handling/Lifting using the NIOSH, Frequent types of injuries related to workplace design, Repetitive motion, and cumulative trauma disorders, preventing ergonomically related injuries by redesigning the workplace, designing display for workers, transfer and design of information, Controls and control arrangements.

Recommendation Books:

1. An Introduction to Human Factors Engineering by John D. Lee. And Christopher D. Wickens, Latest Edition
2. Hand-Book of Industrial Engineering: Technology and operations, by Salvendy G., Latest Edition
3. Human Factors Engineering and Design by Sanders and Mc Cormick, Latest Edition
4. Evaluation of Human Work by John R. Wilson and Sarah Sharples, 4th Edition, Latest Edition

Approval:	Board of Studies:	Res. No. 3.1	Dated: 27.08.2019
	Advanced Studies & Research Board	Res. No. 171.20a	Dated: 15.02.2021
	Academic Council	Res. No. _____	Dated: _____