

Department of Industrial Engineering			
Safety Eng'g & Human Factors (65480)			
Total Credits	3		
major compulsory			
Prerequisites	-		
Course Contents			
1. Human Factors and Ergonomics: history of ergonomics, human body, occupational ergonomics, human-machine interaction models, design of controls and displays, computer workstations, material handling 2. Safety Engineering: development of health and safety function, buildings and facilities, toxic substances, environmental control and noise, fire protection, machine guarding, electrical hazards			
Intended Learning Outcomes (ILO's)		Student Outcomes (SO's)	Contribution
1	An ability to design an ergonomic and safe system, component and process to meet desired needs.	C	35 %
2	Using the ergonomics and safety engineering principles and tools and standard to assess the fitness of an existing system to human use	K	35 %
3	Understand the importance of ergonomics and safety engineering in protecting the workers and employees in manufacturing and service sectors from occupational diseases and accidents	F	30 %
Textbook and/ or References			
Textbooks: Kroemer, K.H.E., Kroemer H.B and Kroemer-Elbert K.E. Ergonomics: How to Design for Ease and Efficiency. 2nd Edition, New Jersey: Prentice-Hall, 2001. Asfahl, C.R. Industrial Safety and Health Management. 4th Edition, New Jersey: Prentice-Hall, 1999. Useful References: Sanders, M. and Mc Cormick, E. Human Factors in Engineering and Design. 6th Edition, New York: Mc Graw-Hill, 1987 Ridely, J. and Channing, J. Safety at Work. 5th Edition, Oxford: Butterworth-Heinemann, 1999.			
Assessment Criteria		Percent (%)	
First Exam		20 %	
Second Exam		20 %	
Projects		20 %	
Final Exam		40 %	
Course Plan			
Week	Topic		
1	History of Ergonomics		
2	Human Body		
3-4	Occupational Ergonomics		
4-5	Human-Machine Interaction Models		
6	Design of Controls and Displays		
7	Midterm I Exam		
8-9	Computer Workstations, Material Handling		
10	Development of Health and Safety Function		
11-12	Buildings and Facilities, Toxic Substances		
13	Midterm II Exam		
14	Environmental Control and Noise, Fire Protection,		

15	Machine Guarding, Electrical Hazards
16	Final Exam