

**School of Fine Arts Design and Architecture / Industrial Design**

**2023 - 2024 Academic Year**

**HUMAN FACTORS in DESIGN**

**Syllabus**

<b>Course Description</b>					
<b>Name</b>	<b>Code</b>	<b>Semester</b>	<b>T+A Hour</b>	<b>Credit</b>	<b>ECTS</b>
HUMAN FACTORS in DESIGN	EUT2241180	Spring Semester	2+0	2	2
<b>Prerequisites Courses</b>					
<b>Recommended Elective Courses</b>					
<b>Language of Instruction</b>	Turkish				
<b>Course Level</b>	First Cycle (Bachelor's Degree)				
<b>Course Type</b>	Required				
<b>Course Coordinator</b>	Assist.Prof. Fahrettin Ersin ALACA				
<b>Name of Lecturer(s)</b>	Assist.Prof. Fahrettin Ersin ALACA				
<b>Assistant(s)</b>	Res. Asst. Pelin Efilti				
<b>Aim</b>	1. To transfer data about user differences to the design process 2. To provide the ability of thinking and analyze the products as man-machine systems 3. To provide the ability to use data collection methods about users in a product design project 4. To provide the ability to design products by considering natural skills and limitations of users				
<b>Course Content</b>	This course contains; The concept of system and types of systems. ,Human dimensions and the concept of anthropometry and its applications in design. ,Biomechanical skills, physical work ergonomics. ,Basic principles in hand tool design. ,Foot and the ergonomics and dynamics of walking and running. ,Physical environmental conditions. ,Physical environmental conditions. ,Design for disabled users. ,Information ergonomics and information processing. ,Information ergonomics and information processing.,Controls and displays. ,The concept of interface and arrangement of product interfaces. ,Human computer interaction.,Human computer interaction..				
<b>Course Learning Outcomes</b>			<b>Teaching Methods</b>	<b>Assessment Methods</b>	
4.Approach to design process from the point of view of positive sciences.			10, 13, 14, 6, 9	A, D, E	
1. Systematically analyze the product-user relation,			10, 13, 14, 6, 9	A, D, E	
2. Collect data about users and apply to the design process, approach user centeredly to the design process;			10, 13, 14, 6, 9	A, D, E	
3. Apply the concepts of productivity, safety and physical/psychological comfort to the design process;			10, 13, 14, 6, 9	A, D, E	
<b>Teaching Methods</b>	10: Discussion Method, 13: Case Study Method, 14: Self Study Method, 6: Experiential Learning, 9: Lecture Method				
<b>Assessment Methods</b>	A: Traditional Written Exam, D: Oral Exam, E: Homework				
<b>Lecture Schedule</b>					
<b>Sequence</b>	<b>Topics</b>	<b>Preliminary Preparation</b>			
1	The concept of system and types of systems.				
2	Human dimensions and the concept of anthropometry and its applications in design.				
3	Biomechanical skills, physical work ergonomics.				
4	Basic principles in hand tool design.				
5	Foot and the ergonomics and dynamics of walking and running.				
6	Physical environmental conditions.				
7	Physical environmental conditions.				
8	Design for disabled users.				
9	Information ergonomics and information processing.				
10	Information ergonomics and information processing.				
11	Controls and displays.				
12	The concept of interface and arrangement of product interfaces.				
13	Human computer interaction.				
14	Human computer interaction.				
<b>Evaluation Methods</b>		<b>Weight(%)</b>			
Midterm Exam		50			
General Exam		50			

<b>Resources</b>
to be distributed by the lecturer.Cacha C., 1999, Ergonomics and safety in hand tool design, CRC. Chengalur S., Rodgers S., Bernard T., 2004, Kodak's ergonomic design for people at work, Wiley. Green W., Jordan P., 1999, Human factors in product design-Current practice and future trends, Taylor&Francis. Kroemer K., 2005, Extra-ordinary ergonomics: How to accommodate small and big persons the disabled and elderly expectant mothers and children, CRC. Pheasant , S. 1996, Body space-anthropometry, ergonomics and the design of work, Taylor&Francis. Sanders M., McCormick E.J, Human factors in engineering and design, Mc Graw Hill Woodson W., Tillman B., Tillman P., 1992, Human factors design handbook, Mc Graw Hill.