

## **COURSE CONTENT**

<b>Course Code</b>	M4857 / DR2011
<b>Course Title</b>	Human Factors for Design
<b>Pre-requisites</b>	nil
<b>No of AUs</b>	3
<b>Contact Hours</b>	Lecture : 19 hours Studio work : 20 hours Total : 39 hours

### **Course Aims**

This course aims to introduce human factors (HF) theory and practice to you, the design students, so that you can apply knowledge of human factors to improve the function and usability of products, environments, and services.

### **Intended Learning Outcomes (ILO)**

Upon the successful completion of this course, you should be able to:

1. design products (or systems) with good attributes in physical and cognitive ergonomics.
2. solve practical problems related to health and safety issues encountered in industrial and service environments.

### **Course Content**

Key topics covered in this course include:

1. Introduction to Human Factors for Design (1 hour)
  - a) Basic Terms and Fundamental Design Concepts
  - b) User-Centred Design Process
  - c) Human Factors in Systems
2. Physical Ergonomics (9 hours – about 1 lecture hour per topic)
  - a) Anatomical & Physiological Considerations
  - b) Biomechanical Considerations
  - c) Anthropometry & Population Diversity
  - d) Working & Lifting Postures
  - e) Design of Hand Tools
  - f) Musculoskeletal Disorders
  - g) Workplace & Workstation Design

- h) Environmental Considerations
  - i) Users with Specific Needs
3. Cognitive Ergonomics (9 hours – about 1 lecture hour per topic)
- a) Model of Human Information Processor
  - b) Memory & Mental Models
  - c) Decision Making, Attention & Workload
  - d) Human Perception & Information Graphics
  - e) Visual Display for Dynamic Information
  - f) Auditory, Tactual and Olfactory Display
  - g) Speech Communications
  - h) Display Compatibility & Population Stereotype
  - i) Design of Controls