

DISCIPLINE SPECIFIC ELECTIVE—(DSE) Ergonomic Anthropology

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title and Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/Practice		
DSE – Ergonomic Anthropology	4	3	0	1	Class XII pass	NIL

Course objectives:

- To provide knowledge about designing of health workplace, equipment, machine & surrounding.
- To equip the students in theoretical and applied aspect of ergonomic anthropology.

Learning outcomes:

- The student will be trained with tools and techniques of ergonomic anthropology that can help in improvement of effective workplace design.
- This course will help students to insure the safety, health and well-being of the workers.
- In this course will help the student to develop innovative idea about reducing the risk and management of occupational disease.

Syllabus **45 Hours**

Unit 1 : Introduction **10 Hours**

Concept and evolution of Ergonomics, Historical background, Scope of Ergonomics & Relevance in Anthropology, Evolving of Ergonomic Anthropology, Bio-mechanics concepts.

Unit 2: Ergonomics - Theories and Concepts **12 Hours**

Theories of healthy standing and sitting, Posture stress, free posturing, Concept of safety, efficiency and comfort, Clearance and Reach.

Unit 3: Ergonomics principle in workplace design **12 Hours**

Use of Percentiles in designing products, Average man in designing- A fallacy, Design of workplace and work environment.

Unit 4: Ergonomic Applications to reduce Occupational health hazards **11 Hours**

Designing and safety: Disability ageing and inclusive design, work and health.

Practical	30 Hours
1. Height vertex	
2. Body weight	
3. Sitting height vertex	
4. Right anterior arm reach	
5. Right anterior thumb tip reach	
6. Head circumference	
7. Arm scye circumference	
8. Elbow to elbow breadth	
9. Elbow rest height	
10. Bideltoid breadth	
11. Popliteal height	
12. Knee height	
13. Buttockpoplital length	
14. Buttock knee length	
15. Buttock leg length	
16. Bitragion submandibular arch	
17. Bitragionmenton arch	

Core Readings

1. *Ergonomics in Design Methods and Technique* by MM Soares and Francis Robert, 2016 (CRC Press).
2. *Ergonomics for beginners: A quick reference glide* by Jan Dul, Bernard Weerdmeester, 2008 (CRC Press).

Suggested Readings

1. *Design and Anthropology* edited by Wendy Gunn and Jared Donovan, 2012 (Routledge).
2. *Applied Bio-mechanics concepts & connections* (2008) John Mclester; Peter St. Pierre. Wadsworth Publishing Co.

Examination and Assessment

Examination and assessment will be carried out as per the University of Delhi guidelines and notifications issued from time to time.