



(Master of Science –Home Science) (General Home Science)
(M.Sc.-H.Sc.) (General Home Science) Semester (I)

Course Code	PH01EGEN52	Title of the Course	Fundamentals of Ergonomics
Total Credits of the Course	04	Hours per Week	04

Course Objectives:	<ol style="list-style-type: none">1. To become aware of the role of ergonomics in work efficiency and effectiveness.2. To understand the environmental factors contributing to productivity, safety, control and well-being of individual performing the work.
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Course Content		
Unit	Description	Weightage * (%)
1.	Basic Concept of Ergonomics: Definition, Scope, Importance, Elements of ergonomics, Types of Ergonomics: Physical, Cognitive and Organizational.	10
2.	Components of Ergonomics : The worker, work, work place and the work triangle.	10
3.	(a) Definition and classification of work (b) Factors influencing performance of work (c) Ergonomic analysis of various work centers in home.	15
4.	Worker Component (a) Affective component: (Interest, attitudes, motivation, satisfaction) i. Liked and disliked tasks ii. Reasons for task preferred (b) Cognitive Component: Knowledge, Thinking, Paying attention Skill. (c) Temporal Component: Control of time- Organizing techniques, Constrains on timing &Flexible and inflexible work.	25
5.	Anthropometry and Biomechanics (a) Definition and Scope. (b) Identification and analysis of Posture(OWAS, RULA and REBA). (c) Effect of wrong postures on Musculoskeletal disorder(MSD) and Cardio vascular system. (d) Correct techniques of lifting & carrying weights. (e) Design application of Anthropometric data: Work space design and Furniture design.	25
6.	Environmental Risk factors at Work Place	15





	(a) Heat and Cold stress (b) Lighting and Noise (c) Vibration and its effect on body parts during work with vibrating tools.	
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Teaching-Learning Methodology	Power point Presentation, Classroom lectures, Project.
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Understand the importance of anthropometric dimensions of the worker with their activities
2.	Gain knowledge regarding effective designing of work places as per body posture.

Suggested References:	
Sr. No.	References
1.	Duffy, V.G. (2011). <i>Advances in Human Factors & Ergonomics in Health Care</i> . CRC Press.
2.	David, B. K., & Guy, B. (2011). <i>Advances in Cognitive Ergonomics</i> . CRC Press.
3.	Tillman, C. (2008). <i>Principles of Occupational Health & Hygiene</i> . Allen & Unwin.





4	Gandotra,V., & Jaiswal, N. (2008). <i>Management of Work in Home</i> . New Delhi: Dominant publishers and Distributors.
5	Phillip, D. B. (2008). <i>Contemporary Ergonomics</i> . CRC Press.
6	Gandotra,V., Oberio, K., & Sharma,P. (2005). <i>Essentials of Ergonomics</i> . New Delhi: Dominant publishers and Distributors.
7	Pheasant,S. (2001). <i>Body space Anthropometry, Ergonomics and the Design of Work</i> . Taylor and Francis.
8.	Varghese, M.A., Shah, P.N., & Atreya, N. (2000). <i>Ergonomics of Women at Work</i> . Mumbai : Allied Publishers Ltd.
9.	Nath, S. (1993). <i>Anthropometry : The measurement of Body size, shape and form</i> . Friends publication.

On-line resources to be used if available as reference material

On-line Resources

<http://epgp.inflibnet.ac.in/Home/ViewSubject?catid=24>

