

SWE1018	Human Computer Interaction	L	T	P	J	C
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Pre-requisite	None	Syllabus version				
		v.1.0				
Course Objectives:						
<ol style="list-style-type: none"> 1. To understand guidelines, principles, and theories influencing human computer interaction. 2. To synthesize mock ups and carry out user and expert evaluation of interfaces 3. To comprehend the steps of experimental design, and evaluation of human computer interaction systems. 						
Expected Course Outcome:						
<ol style="list-style-type: none"> 1. Identify the capabilities of both humans and computers from the viewpoint of human information processing. 2. Understand the guidelines and design process for designing HCI systems. 3. Study human-computer interaction (HCI) models, styles, and HCI paradigms. 4. Apply an interactive design process and universal design principles for designing HCI systems. 5. Design a user interface complying with HCI design principles, standards and guidelines. 6. Identify and choose from a variety of user research and evaluation techniques 7. Identify HCI issues in groupware, ubiquitous computing, virtual reality, multimedia, and World Wide Web-related environments. 8. Apply evaluation and usability testing methods for validating interactive products 						
Student Learning Outcomes (SLO)		2,6				
Module:1	Introduction to Human Computer Interaction	5 hours				
Human Computer Interaction and its frameworks, Principles of HCI, Types of Interaction styles, HCI Guidelines.						
Module:2	Human factors as HCI Theories	6 hours				
Human Information Processing – Task Modeling and Human Problem Solving model; Human Reaction and Prediction of Cognitive Performance; Sensation and Perception of Information; Human Body Ergonomics						
Module:3	HCI Design	5 hours				
Interface Selection Options, Wire-Framing, Naïve Design Example.						
Module:4	User Interface Layer and Methodology	6 hours				
User interface layer and its execution Framework, Input /Output processes, UI Development Toolkit, Interactive System development Framework, Case studies on MVC.						

Module:5	Evaluation Techniques	6 hours
Goals and types of Evaluation, Evaluation through Expert analysis, Evaluation through user Participation, Choosing an evaluation method.		
Module:6	Contemporary issues:Applications of Human computer interaction in industry	2 hours
	Total Lecture hours:	30 hours
Text Book(s)		
1.	Gerard Jounghyun Kim, Human Computer Interaction – Fundamentals and Practice, – CRC press, 2015.	
Reference Books		
1.	Julie A. Jacko, The Human–Computer Interaction Handbook: Fundamentals, Evolving Technologies, and Emerging Applications, 3 rd Edition, CRC Press (Taylor & Francis Group) 2012. Ben Shneiderman, Catherine Plaisant, Maxine Cohen, Steven Jacobs, Designing the User Interface: Strategies for Effective Human Computer Interaction, 5 th Edition, Pearson, 2009.	
2.	Alan Dix, Janet E. Finlay, Gregory D. Abowd, Russell Beale, Human - Computer Interaction, 3 rd Edition, Pearson, 2003.	
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