



<b>Course: USER INTERFACE DESIGN</b>			
<b>Type: Elective</b>		<b>Course Code: 18CS734</b>	
<b>No of Hours</b>			
Theory (Lecture Class)	Practical/Field Work/Allied Activities	Total/Week	Total teaching hours
3	0	3	40
<b>Marks</b>			
Internal Assessment	Examination	Total	Credits
40	60	100	3
<b>Aim/Objectives of the Course</b>			
<ol style="list-style-type: none"> <li>1. To study the concept of menus, windows, interfaces.</li> <li>2. To study about business functions.</li> <li>3. To study the characteristics and components of windows and the various controls for the windows.</li> <li>4. To study about various problems in window design with text, graphics.</li> <li>5. To study the testing methods.</li> </ol>			
<b>Course Learning Outcomes</b>			
After completing the course, the students will be able to			
<b>CO1</b>	<b>Summarize</b> the importance of user interface, characteristics of graphical system, web user interface and its principles.	<b>Understanding (K2)</b>	
<b>CO2</b>	<b>Demonstrate</b> user interface design process and <b>outline</b> the business functions.	<b>Understanding (K2)</b>	
<b>CO3</b>	<b>Explain</b> different system menu and navigation schemes.	<b>Understanding (K2)</b>	
<b>CO4</b>	<b>Discuss</b> different presentation styles, discuss device based and screen-based controls in user interface design.	<b>Understanding (K2)</b>	
<b>CO5</b>	<b>Illustrate</b> kinds of test, retest, and visualize various aspects of screen - based control.	<b>Understanding (K2)</b>	
<b>Syllabus Content</b>			
<b>Module 1:</b> The User Interface-Introduction, Overview, the importance of user interface - Defining the user interface, The importance of good design, Characteristics of graphical and web user interfaces, Principles of user interface design			<b>CO1 8 hrs</b>
<b>LO:</b> At the end of this session the student will be able to			
1. Explain the characteristics of GUI.			PO1-3
2. Compare and contrast GUI and web interface design.			PO2-3
3. Explain the general principles of UID.			PO3-2
			PO5 -3
			PO6 -2
			PO7 -1

<p>4. Mention the advantages &amp; disadvantages of GUI in detail.</p>	<p>PO9-1 PO10-1 PO12-1 PSO1-3 PSO2-3</p>
<p><b>Module 2:</b> The User Interface Design process- Obstacles, Usability, Human characteristics in Design, Human Interaction speeds, Business functions-Business definition and requirement analysis, Basic business functions, Design standards.</p> <p><b>LO:</b> At the end of this session the student will be able to</p> <ol style="list-style-type: none"> <li>1. Explain the usefulness of user interface design process</li> <li>2. Explain the challenges of user interface design process</li> <li>3. Explain the human characteristics in design.</li> <li>4. Explain the speed of human interaction.</li> <li>5. Explain direct and indirect methods in requirement analysis.</li> </ol>	<p><b>CO2</b> 8 hrs</p> <p>PO1-3 PO2-3 PO3-2 PO5 -3 PO6 -2 PO7 -1 PO9-1 PO10-1 PO12-1 PSO1-3 PSO2-3</p>
<p><b>Module 3</b> System menus and navigation schemes- Structures of menus, Functions of menus, Contents of menus, Formatting of menus, Phrasing the menu, selecting menu choices, Navigating menus, Kinds of graphical menus.</p> <p><b>LO:</b> At the end of this session the student will be able to</p> <ol style="list-style-type: none"> <li>1. Explain the guidelines for formatting menus.</li> <li>2. Explain structure of menus.</li> <li>3. Explain the content of menu.</li> <li>4. What are the advantages of menu bar</li> <li>5. Explain the kinds of graphical menus.</li> </ol>	<p><b>CO3</b> 8 hrs</p> <p>PO1-3 PO2-3 PO3-2 PO5 -3 PO6 -2 PO7 -1 PO9-1 PO10-1 PO12-1 PSO1-3 PSO2-3</p>
<p><b>Module 4:</b> Windows - Characteristics, Components of window, Window presentation styles, Types of windows, Window management, organizing window functions, Window operations, Web systems, Characteristics of device-based controls.</p> <p><b>LO:</b> At the end of this session the student will be able to</p> <ol style="list-style-type: none"> <li>1. Explain the types and components of windows.</li> <li>2. Give short notes on windows presentation styles.</li> <li>3. Explain various window management techniques.</li> <li>4. Explain briefly about various device-based controls.</li> </ol>	<p><b>CO4</b> 8 hrs</p> <p>PO1-3 PO2-3 PO3-2 PO5 -3 PO6 -2 PO7 -1 PO9-1 PO10-1 PO12-1 PSO1-3 PSO2-3</p>



**CO5**  
8 hrs

**Module 5:**

Screen based controls- Operable control, Text control, Selection control, Custom control, Presentation control, Windows Tests-prototypes, kinds of tests.

PO1-3  
PO2-3  
PO3-2  
PO5 -3  
PO6 -2  
PO7 -1  
PO9-1  
PO10-1  
PO12-1  
PSO1-3  
PSO2-3

**LO:** At the end of this session the student will be able to

1. Discuss about screen-based selection controls.
2. Explain different tests and retest on windows layout.
3. Explain the prototypes of test that can done in UID.

**Text Books**

1. Wilbert O. Galitz, "The Essential Guide to User Interface Design", John Wiley & Sons, Second Edition 2002.

**Reference Books (specify minimum two foreign authors text books)**

1. Ben Sheiderman, "Design the User Interface", Pearson Education, 1998.
2. Alan Cooper, "The Essential of User Interface Design", Wiley- Dream Tech Ltd.,2002

**Useful Websites**

1. <https://www.usability.gov/what-and-why/user-interface-design.html>
2. <https://careerfoundry.com/en/blog/ui-design/what-is-ui-design-guide/>
3. <https://pidoco.com/en/help/ux/user-interface-design>
4. <https://www.coursera.org/specializations/user-interface-design>

**Useful Journals**

1. [https://www.ripublication.com/ijaer17/ijaerv12n20\\_96.pdf](https://www.ripublication.com/ijaer17/ijaerv12n20_96.pdf)
2. [https://www.tandfonline.com/doi/abs/10.1207/s15327051hci0104\\_2](https://www.tandfonline.com/doi/abs/10.1207/s15327051hci0104_2)

**Teaching and Learning Methods**

1. Lecture class: 40 hrs
2. Practical classes: 0hrs

**Assessment**

**Type of test/examination:** Written examination

**Continuous Internal Evaluation(CIE) :** 40 marks (Average of three tests will be considered)

**Semester End Exam(SEE):** 100 marks (students have to answer all main questions) which will be reduced to 60 Marks.

**Test duration:** 1 :30 hrs

**Examination duration:** 3 hrs


### CO to PO Mapping

**PO1:** Science and engineering Knowledge  
**PO2:** Problem Analysis  
**PO3:** Design & Development  
**PO4:** Investigations of Complex Problems  
**PO5:** Modern Tool Usage  
**PO6:** Engineer & Society

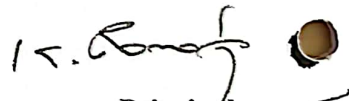
**PO7:** Environment and Society  
**PO8:** Ethics  
**PO9:** Individual & Team Work  
**PO10:** Communication  
**PO11:** Project Management & Finance  
**PO12:** Lifelong Learning

**PSO1:** Understand fundamental and advanced concepts in the core areas of Computer Science and Engineering to analyze, design and implement the solutions for the real-world problems.  
**PSO2:** Utilize modern technological innovations efficiently in various applications to work towards the betterment of society and solve engineering problems.

CO	PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
18CS734	K-level														
CO1	K2	3	3	2	-	3	2	1	-	1	1	-	1	3	3
CO2	K3	3	3	2	-	3	2	1	-	1	1	-	1	3	3
CO3	K2	3	3	2	-	3	2	1	-	1	1	-	1	3	3
CO4	K2	3	3	2	-	3	2	1	-	1	1	-	1	3	3
CO5	K2	3	3	2	-	3	2	1	-	1	1	-	1	3	3

  
**Course In charge**

  
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