# Human-Computer Interaction

**Text Book(s):**

1. Human-Computer Interaction by Jenny Preece, Addison-Wesley Press, 994.

**Course Description:**

Human beings interact and communicate with each other and this interaction/ communication is facilitated and support by literature to make it a success. Similarly, human beings need to interact with computers and this interaction is gaining importance with every passing day. This course on Human-computer interaction (HCI) is designed as a multidisciplinary subject. Its makes references to the theories on human behavior as well as the principles of computer system design. The major topics include the human perspective and technology imperatives including input and output designs, interaction styles, window design, and user-centered design methods.

**Pre-requisite**:

Nil

**Grading Policy**:

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|---|---|
| In Semester Evaluations: | 30% |
| End Semester Evaluation: | 70% |

## Week-wise Breakdown

| Week | Topics / Activities | Chapter |
|---|---|---|
| 1 | **HCI**: Different design need, the challenges and goals of HCI, Evolution and importance of HCI | 1 |
| 2 | **Components of HCI**: HCI as interdisciplinary practice, a conceptual model, Designing HCI | 2 |
| 3 | **Human Element**: Cognitive perspective and framework, Perception and representation | 3, 4 |
| 4 | Attention and memory constraints, knowledge and mental models | 5, 6 |
| 5 | Interface metaphors and conceptual models | 7 |
| 6 | Learning in context: Learning as an active process, gaining expertise, classification of interface metaphors for applications, Ubiquitous computing | 8.1-8.3 |
| 7 | **Technology Element:** Inputs (Input devices, pointing devices, matching devices with work, matching devices with users, input for the disabled, matching devices with environment, developments in input | 11 |
| 8 | Output: Devices and outputs, visual outputs dynamic visualization, sound and speech outputs, developments in output | 12 |
| 9 | Interaction styles: styles and command entry, menus and navigation, form-fills and spreadsheets, natural language dialogue, direct manipulation and cognitive issues | 13 |
| 10 | Designing windows systems: basic windows components, common tasks, issues in windowing systems | 14 |
| 11, 12 | User-support and online information: Active learning with minimalist manuals, user assistance and online help, hypertext and hypermedia | 15 |
| 13 | Methods and Techniques: Principles of user-centered design | 17 |
| 14 | Methods for user-centered design | 18 |
| 15 | Latest Trends in HCI | |
| 16 | **Revision** | |