Yashoda Shikshan Prasarak Mandal's
YASHODA TECHNICAL CAMPUS, SATARA
An Autonomous Institute
FACULTY OF ENGINEERING
YSPM Department of Artificial Intelligence and Data Science Engineering

# Teaching Learning and Assessment Plan

**Name of Faculty: Mr. Yajurv Fonia** **Subject: Human Computer Interaction (26AFAIPE507)**

**Semester: III** **Class: T.Y (B)** **Academic Year: 2026-27** **Planned Duration: 1/09/26 to 18/11/26**

**Course outcome: After completing the course students will able to**

| | |
|---|---|
| **26AFAIPE507 _1** | **Describe** human capabilities (perception, memory, reasoning, emotion, individual differences) and the input-output devices used in interactive systems |
| **26AFAIPE507 _2** | **Apply** interaction models, interaction styles, paradigms and the user-centered design process (scenarios, navigation, screen layout, prototyping) to design interactive systems |
| **26AFAIPE507 _3** | **Apply** usability principles, design rules, standards, heuristics and HCI patterns, and use windowing systems, toolkits and UIMS to implement user interfaces |
| **26AFAIPE507 _4** | **Evaluate** interactive systems using expert-analysis and user-participation techniques, and analyze user interaction using cognitive, linguistic and device models |
| **26AFAIPE507 _5** | **Design** dialogs and collaborative systems (groupware) considering communication, human factors and security, and explain mixed, augmented and virtual reality |

**Reference Books:**

A. A Dix, Janet Finlay, G D Abowd, R Beale, "Human - Computer Interaction", Pearson Publishers, Third Edition, 2008.

B. Shneiderman, Plaisant, Cohen, Jacobs, "Designing the User Interface: Strategies for Effective Human Computer Interaction", Pearson Publishers, Fifth Edition, 2018.

C. Jonathan Lazar, "Research Methods in Human–Computer Interaction", John Wiley & Sons (2017)

**Vision:**
Developing AI & DS applications that addresses regional challenges and empowering innovation and challenges, to become a leading rural AI & DS hub.
**Mission:**
M1: Emphasizing responsible AI development that considers social and environmental factors specific to the region.
M2: Educating the public about the potential benefits and responsible use of AI & DS technologies.
M3: Facilitating internships and research projects with AI & DS companies to bridge the gap between theory and practice.

| Unit | Lecture No. | Lesson Plan<br>Content Delivery | Duration | Planned Date | Conduction Date | TM | TA | AT | Reference Book | Mapping with Outcomes<br>CO | <br>PO |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I | 1 | Introduction to HCI, input-output channels<br>Human memory | 1 Hour | 1/09/26 | | LT | CB, PPT | CA MSE ESE | A, B | **26AFA IPE507 _1** | PO 1,2,3,4,5,8,9, 11 PSO 1,2,3 |
| | 2 | Thinking: reasoning and problem solving; Emotion, Individual differences; Psychology and the design of interactive systems | 1 Hour | 2/09/26 | | | | | A, B<br>A, B | | |
| | 3 | Text entry devices; Positioning, pointing and drawing; Display devices | 1 Hour | 8/09/26 | | | | | A, B | | |
| | 4 | Devices for VR and 3D interaction; Physical controls, sensors and special devices; Paper: printing and scanning | 1 Hour | 9/09/26 | | | | | A, B | | |
| II | 5 | Programming interactive systems; Models of interaction,Frameworks and HCI; Ergonomics | 1 Hour | 15/09/26 | | LT | CB, PPT | CA MSE ESE | A, B<br>A, C | **26AFA IPE507 _2** | PO 1, 2,3,5,8 ,9,11 PSO 1,2,3 |
| | 6 | Interaction styles; Elements of the WIMP interface | 1 Hour | 16/09/26 | | | | | A, C | | |
| | 7 | The context of the interaction; Experience, engagement and fun | 1 Hour | 22/09/26 | | | | | A, C | | |
| | 8 | Paradigms for interaction | 1 Hour | 23/09/26 | | | | | A, C | | |
| III | 9 | HCI in the software process; Iterative design and prototyping | 1 Hour | 6/10/26 | | LT | CB, PPT | CA MSE ESE | A, C | | PO |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10 | Design rules; Principles to support usability; Standards and guidelines | 1 Hour | 7/10/26 | | | | | A | **26AFAIPE507_3** | 1,2,3,4,5,6,8,10,11<br>PSO<br>1,2,3 |
| | 11 | Golden rules and heuristics; HCI patterns | 1 Hour | 13/10/26 | | | | | A | | |
| | 12 | Implementation support: Elements of windowing systems; Programming the application; Using toolkits; User interface management systems | 1 Hour | 14/10/26 | | | | | A | | |
| **IV** | 13 | Evaluation techniques; Evaluation through expert analysis | 1 Hour | 20/10/26 | | LT | CB, PPT | CA MSE ESE | A | **26AFAIPE507_4** | |
| | 14 | Evaluation through user participation; Universal design; User support | 1 Hour | 27/10/26 | | | | | B | | |
| | 15 | Models and theories; Cognitive models; Goal and task hierarchies; Linguistic models | 1 Hour | 28/10/26 | | | | | B | | |
| | 16 | The challenge of display-based systems; Physical and device models; Cognitive architectures | 1 Hour | 3/11/26 | | | | | A | | |
| **V** | 17 | Collaboration and communication; Face-to-face communication; Conversation; Text-based communication; Group working | 1 Hour | 4/11/26 | | LT | CB, PPT | CA MSE ESE | A, C | **26AFAIPE507_5** | PO 1,2,3,4,5,6,7,8,9,10,11 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| | 18 | Dialog design notations; Diagrammatic notations; Textual dialog notations; Dialog semantics; Dialog analysis and design | 1 Hour | 10/11/26 | | | | | B,C | | POS 1,2,3 |
| | 19 | Human factors and security; Groupware; Meeting and decision support systems | 1 Hour | 11/11/26 | | | | | A | | |
| | 20 | Shared applications and artifacts; Frameworks for groupware; Implementing synchronous groupware | 1 Hour | 17/11/26 | | | | | A | | |
| | 21 | Mixed, Augmented and Virtual Reality | 1 Hour | 18/11/26 | | | | | A,B | | |

**Note:** TM-Teaching Method- Lecture (LT), Laboratory Visit (LV), Industrial Visit (IV) TA-Teaching Aids Chalk Board (CB), Power Point Presentation (PPT), Models (MD) AT- Assessment Tool–Assignments (AS), Examinations (CA, MSE, ESE), Rubrics (RB)

## Mode of Assessment

| Mode | Assessment Tool | Syllabus | CO Mapped | Marks Weightage | Remark |
|---|---|---|---|---|---|
| CA | "Know Your User" – Human Factors & Input-Output Exploration | **Unit 1** | CO1 | 25 M | The maximum weightage shall be of 20 Marks as per University Structure |
| | "Design It, Test It" – Interactive System & Prototype Critique | **Unit 2, Unit 3,** | CO2,3 | 35 M | |
| | "Put It to the Test" – Usability Evaluation & Communication Design | **Unit 4,5** | CO4, CO5 | 30 M | |
| MSE | Written Exam | 50% of Syllabus | CO1, CO2, CO3 | 20M | The maximum weightage shall be of 20 Marks as per University Structure |
| ESE | Written Exam | On entire syllabus of Prompt Engineering (**26AFAIPE507**) | CO1, CO2, CO,3, CO4, CO5 | 60 M | The maximum weightage shall be of 60 Marks as per University Structure |

**Course Coordinator** **Academic Coordinator** **HOD- AI & DS** **Principal**

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