

**Arab Academy for Science and Technology and Maritime Transport
Computer Science Curriculum
Course Syllabus**

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| Course Code: CS451 | Course Title: Human Computer Interaction | Classification: | Coordinator's Name: Dr. Abeer Bader | Credit Hours: 3 |
| Pre-requisites: SE291 (Introduction to Software Engineering) | Co-requisites: None | Schedule: Lecture: 2 hours Tutorial-Lab: 2 hours | | |
| Office Hours: | | | | |
| <p>Course Description: This course focuses on the interaction between computer systems and people who use them; introducing the analysis and design techniques that can improve the quality of interaction. Topics include design and evaluation of user interfaces, cognitive and social dynamics factors that affect usability, and software architecture considerations. While the emphasis is on conventional graphical and web-based user interfaces, alternative interface devices and technologies are also discussed. Design guidelines, evaluation methods, participatory design, communication between users and system developers.</p> | | | | |
| <p>Textbook: Jenny Preece, Helen Sharp, and Yvonne Rogers, <i>Interaction Design: Beyond Human-Computer Interaction</i>, John Wiley and Sons Ltd.</p> | | | | |

References:

- Ben Shneiderman and Catherine Plaisant, Designing the User Interface: Strategies for Effective Human-Computer Interaction, Addison Wesley.
- Alan Dix, Human-Computer Interaction, Pearson.

| Course Objective/Course Learning Outcome: | Contribution to Program Student Outcomes: |
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| 1 Describe what interaction design is and how it relates to HCI | |
| 2 Explain the relationships between the user experience and usability. | (SO1) Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions. |
| Apply a variety of interaction design processes and techniques and know when they are appropriate. | |
| Examine an interactive product and explain its strength and weakness in terms of concepts, goals, and principles of interaction design. | |
| Apply usability evaluation methods and know when they are appropriate. | (SO6) Apply computer science theory and software development fundamentals to produce computing-based solutions |

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| <p>Understand cognitive factors that affect usability.</p> | |
| <p>Explain how to do usability evolution using inspections, analytics and predictive models.</p> | |
| <p>Course Outline:</p> <ol style="list-style-type: none"> 1. Introduction to Interaction Design. 2. Understanding and Conceptualizing Interaction. 3. Understanding Users. 4. Designing for Collaboration and Communication. 5. Formal Methods of Interaction. 6. Models and Paradigms: Ergonomic issues and Interaction Approaches. 7. 7th Week Exam <p>Interfaces and Interactions</p> | <ol style="list-style-type: none"> 9. Data Gathering. 10. Identifying Needs and Establishing Requirements 11. Prototyping and design cycle: rules and principles. 12. 12th Week Exam 13. User Interfaces: Standards and Guidelines. 14. Evaluation: Methods and Models 15. Revision <p>Final exam</p> |

Grade Distribution:

7th Week Assessment (30%)

12th Week Assessment (20%)

Year Work (10%)

Final Exam (40%)

Policies:

Attendance:

AASTMT Education and Study Regulations (available at aast.edu)

Academic Honesty:

AASTMT Education and Study Regulations (available at aast.edu)

Late Submission:

Late submissions are graded out of 75% (1 week late), 50% (2 weeks late), 25% (3 weeks late), 0% (more than 3 weeks late)