
SYLLABUS

Date/ Revision	April 2017
Faculty	Engineering
Approval	Head of Program Study

SUBJECT : HUMAN COMPUTER INTERACTION

1. Identification of Subject:

Name of Subject	: HUMAN COMPUTER INTERACTION
Code of Subject	:
SKS / ECTS	:
Semester	: 4
Study Program	: CSE
Lecturer	:

2. Competency

After having the course, students are expected to:

- Be able to recognize and recall terminology, facts and principles of the current literature on HCI.
- be able to determine the relationships between specific instances and broader interaction processes and system interfaces in terms of HCI.
- to explain, analyze and solve specific situations, often with the applicable concepts implicit in the setting.

3. Description of Subject:

This course will focus on the nature of human understanding and communication using computers; and the role of computers as media to facilitate various social contexts. The course is intended to introduce the student to the basic concepts of human-computer interaction. It will cover effective user interaction designs, including principles and guidelines for designing interactive systems. User interaction development activities include requirements and task analysis, usability specifications, design, prototyping, and evaluation.

4. Learning Approach

Approach	: Problem based learning
Method	: Discussion, question answer, group work
Student Task	: Practices and homework
Media	: Power Point Presentation, Video, Modulo

5. Evaluation

a) Absence maximum	: 25%
b) Participation and quiz	: 10 points
c) Project	: 30 points
d) Final Examination	: 60 points
Total	: 100 points

6. Contents/ Topics of Lecturing:

Week	Topics	Content	Remark
1	The human	Input–output channels , Human memory, Thinking: reasoning and problem solving, Emotion , Individual differences , Psychology and the design of interactive systems	
2	The computer	Text entry devices, Positioning, pointing and drawing , Display devices , Devices for virtual reality and 3D interaction, Physical controls, sensors and special devices, Paper: printing and scanning, Memory , Processing and networks	
3	The interaction	Models of interaction , Frameworks and HCI , Ergonomics , Interaction styles , Elements of the WIMP interface , Interactivity , The context of the interaction , Experience, engagement and fun	
4	Interaction design basics	What is design? , The process of design , User focus , Scenarios , Navigation design , Screen design and layout , Iteration and prototyping	
5	HCI in the software process	The software life cycle , Usability engineering , Iterative design and prototyping , Design rationale	
5	Design rules	Principles to support usability , Standards , Guidelines , Golden rules and heuristics , HCI patterns	
6	Implementation support	Elements of windowing systems , Programming the application , Using toolkits , User interface management systems	
7	Universal design	Universal design principles , Multi-modal interaction , Designing for diversity	
8	Mid Term Break		
9	User support	Requirements of user support , Approaches to user support , Adaptive help systems , Designing user support systems	
10	Cognitive models	Goal and task hierarchies , Linguistic models , The challenge of display-based systems , Physical and device models , Cognitive architectures	
11	Communication and collaboration models	Organizational issues , Capturing requirements , Communication and collaboration models , Face-to-face communication , Conversation , Text-based communication , Group working	
12	Task analysis	Differences between task analysis and other techniques , Task decomposition , Knowledge-based analysis , Entity–relationship-based techniques , Sources of information and data collection , Uses of task analysis	
13	Dialog notations and design	What is dialog? , Dialog design notations , Diagrammatic notations , Textual dialog notations , Dialog semantics , Dialog analysis and design	
14	visualization	Hypertext, multimedia and the world wide web Understanding hypertext , Finding things , Web technology and issues , Static web content , Dynamic	
15	Final Examination		

7. Book Reference:

- a) Human-Computer Interaction. Dix A. et al., Prentice Hall, 2004, ISBN-10: 0130461091
- b) Interaction Design: Beyond Human Computer Interaction, 3rd Edition, Yvonne Rogers, Helen Sharp, Jenny Preece, Wiley, 2011, ISBN-10: 0470665769 Text Book: xxxx