EE4213: HUMAN-COMPUTER INTERACTION

Effective Term
Semester B 2022/23

Part I Course Overview

Course Title
Human-Computer Interaction

Subject Code
EE - Electrical Engineering
Course Number
4213

Academic Unit
Electrical Engineering (EE)

College/School
College of Engineering (EG)

Course Duration
One Semester

Credit Units
3

Level
B1, B2, B3, B4 - Bachelor's Degree

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
CS2311 Computer Programming
or
equivalent

Precursors
Nil

Equivalent Courses
Nil

Exclusive Courses
Nil

Part II Course Details

Abstract

The aims of the course are to present essential foundations of human computer interaction and to apply them in the design, implementation and/or evaluation of everyday things.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Identify and recognise important aspects in human-computer interaction and interaction design process.		x	x	
2	Differentiate between a good or bad design.		x	x	
3	Apply human-computer interaction principles and guidelines to criticise and justify the usability of daily life things, particularly computer-related products.		x	x	
4	Create new design ideas and apply evaluation techniques to examine the usability of the design.				x

A1: Attitude
Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability
Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

A3: Accomplishments
Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

Teaching and Learning Activities (TLAs)

	TLAs	Brief Description	CILO No.	Hours/week (if applicable)
1	Lectures	Key concepts are described and illustrated. Key concepts are worked out based on problems, in-class Q&A, work-along examplesrated	1, 2, 3, 4	3 hrs/week

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Tests (min.: 1)	1, 2, 3, 4	10	
2	#Assignments (min.: 3)	1, 2, 3, 4	60	

Continuous Assessment (%)

70

Examination (%)

30

Examination Duration (Hours)

2

Additional Information for ATs

Remarks:
To pass the course, students are required to achieve at least 30% in course work and 30% in the examination.

may include homework, tutorial exercises, projects, presentations

Assessment Rubrics (AR)

Assessment Task

Examination

Criterion

Achievements in CILOs

Excellent (A+, A, A-)

High

Good (B+, B, B-)

Significant

Fair (C+, C, C-)

Moderate

Marginal (D)

Basic

Failure (F)

Not even reaching marginal levels

Assessment Task

Coursework

Criterion

Achievements in CILOs

Excellent (A+, A, A-)

High

Good (B+, B, B-)

Significant

Fair (C+, C, C-)

Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Part III Other Information

Keyword Syllabus

Foundations of Human Computer Interaction
Overview of Human Computer Interaction; Psychology; Human factors; Cognitive neuroscience; Sensory system; Attention; Memory; Interaction

Process of Human Computer Interaction Design
Human Computer Interaction Design Activities; User Modelling & Task Analysis; Design Techniques; Prototyping; Evaluation

Human Computer Interaction Design Examples
Interaction styles; Web design; Speech; Haptics; AR/VR; Ubiquitous computing; Inclusive design; Next-generation interface

Reading List

Compulsory Readings

	Title
1	Nil

Additional Readings

	Title
1	D.Norman, The Design of Everyday Things, Basic Books (2013)
2	J.Preece, Y.Roger and H.Sharp, Interaction Design: Beyond Human-Computer Interaction, 5th Edition, Wiley (2019)