EAS419 Computer Systems Architecture, HCI and Graphical Interfaces

Level: 4

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY JULY

Synopsis:

The first part of the course covers issues related to the design of high-performance processing system architectures and how such architectures are used in the design of personal computers (PCs). In the second part of the course the underlying principles of human-computer interaction are introduced alongside the techniques used to evaluate graphical user interfaces quantitatively.

Topics:

- Computer Function and Interconnections
- Computer Memory Systems and Input-Output (I/O) Devices
- Operating System Support and Instruction Sets
- Human-Computer Interaction (HCI)
- Interaction Models and Paradigms
- Interaction Design and HCI Evaluation

Learning Outcome:

- State functions of computer memory systems and the various classes of processors.
- Explain the principles of operation of pipelining and Pipelined Processors used in computer architecture design
- Differentiate the roles and applications of the various typical parallel processors found in computer systems.
- Explain in detail, the characteristics, properties and functions of connection networks in computer systems and explain the roles of task partitioning in computer I/O functions.
- Use HCI design principles in the development of a conceptual user interface suitable for the aircraft cockpit layout of a large civilian aircraft.

Assessment Strategies (Evening Class):

Components	Description	Weightage Allocation (%)
Overall Continuous Assessment	QUIZ 1	10
	LAB REPORT 1	12
	TUTOR-MARKED ASSIGNMENT 1	8
Overall Examinable Components	Written Exam	70
Total		**100**