F27CX Introduction to Computer Systems

COURSE DETAILS

Course Code: F27CX
Full Course Title: Introduction to Computer Systems
SCQF Level: 7
SCAF Credits: 15
Available as Elective: No

DELIVERY LEVEL

Undergraduate: Yes  Postgraduate Taught: No  Postgraduate Research: No

Additional Information:

COURSE AIMS

To introduce students to modern computer systems architecture.

To give students an appreciation of logical design and data representation.

LEARNING OUTCOMES – SUBJECT MASTERY

- Overview of hardware/software hierarchy in contemporary computer systems;
- Understanding of purpose and function of major system hardware and software components;
- Understanding of information representation in computer systems;
- Ability to write Linux shell scripting

LEARNING OUTCOMES – PERSONAL ABILITIES

- To be able to express arguments/problems in propositional and predicate calculus.
- To be able to communicate in using formal notations
- To be able to relate theoretical hardware/software knowledge to the computational setting in the workplace.
- To be able to articulate the purposes and functions of the hardware/software set-up in the workplace.
F27CX Introduction to Computer Systems

SYLLABUS

- Overview
- Hardware components - peripherals, memory & CPU.
- Boolean algebra.
- Low-level information representation.
- CPU organisation.
- Introductory assembly language programming.
- Operating system: I/O; interrupts; scheduler; virtual memory; file system.
- Concurrency: processes; threads; synchronisation; shared & distributed memory; distributed & parallel architectures.
- Language processors: compiler; interpreter; assembler; loader.
- Linux shell scripting

COURSE RELATIONSHIPS

N/A

LOCATION AND ASSESSMENT METHODS

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