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**

<table>
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<th>Undergraduate:</th>
<th>Yes</th>
<th>Postgraduate Taught:</th>
<th>No</th>
<th>Postgraduate Research:</th>
<th>No</th>
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**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**

<table>
<thead>
<tr>
<th>Method</th>
<th>Weight</th>
<th>Exam Mins</th>
<th>Type</th>
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<tbody>
<tr>
<td>Coursework</td>
<td>100</td>
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