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

**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.
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>Edi</th>
<th>SBC</th>
<th>Ork</th>
<th>Dub</th>
<th>Malay</th>
<th>IDL</th>
<th>COLL</th>
<th>ALP</th>
<th>OTH</th>
<th>Method</th>
<th>Weight</th>
<th>Exam Mins</th>
<th>Type</th>
<th>Diet</th>
<th>Synoptic Course</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Coursework</td>
<td>100</td>
<td>Assessment</td>
<td>All Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Coursework</td>
<td>100</td>
<td>Reassessment</td>
<td>Semester 1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>