<table>
<thead>
<tr>
<th>TSC Category</th>
<th>Systems Integration</th>
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<tbody>
<tr>
<td>TSC Description</td>
<td>Implement control systems to perform pre-defined tasks and also real-time monitoring for the real world</td>
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<tr>
<th>TSC Proficiency Description</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
<th>Level 6</th>
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<td>ELE-SYS-4001-1.1</td>
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<td>ELE-SYS-5001-1.1</td>
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<td>Design and develop embedded system processes for the interfacing of embedded systems to the real world</td>
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<td>Lead the evaluation of the performance of embedded systems against specified requirements and user expectations</td>
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Knowledge

- Definition of embedded systems
- Requirements, specifications and challenges involved in designing embedded systems
- Product design, development cycle and management
- Building blocks of an embedded system
- Real-world interfacing
- Considerations and constraints of systems development process
- Embedded systems requirements
- Embedded systems user expectations and/or needs
- Software metrics to be evaluated

Abilities

- Design and develop processes of embedded systems
- Interface and implement embedded systems to the real world
- Implement exception and interrupt handling
- Implement User Acceptance Testing (UAT) environment for product testing
- Analyse the main characteristic roles of a processor in the embedded systems design
- Appraise the qualifying factors of processors performance and key features of High Level Language (HLL) in embedded system development
- Examine the architecture and operating principles of data structures in embedded systems programming
- Evaluate Real-Time Operating System (RTOS) functions and task scheduling models in embedded systems against user expectations and/or needs
- Propose improvements to
the embedded systems