

<b>Module Title</b> <b>Introduction to Electronics</b>  <b>Keywords</b> Transistors, Operational Amplifiers, Boolean Algebra, Logic Circuits	Reference    EN1510 SCQF Level SCQF 7 SCQF Points    15 ECTS Points    7.5 Created    May 2002 Approved    September 2004 Amended    January 2013 Version No.    5
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## This Version is No Longer Current

The latest version of this module is available [here](#)

### Prerequisites for Module

None, in addition to course requirements

### Corequisite Modules

None.

### Precluded Modules

None.

### Aims of Module

By the end of this module, students should be able to utilize fundamental analogue and digital electronic devices in simple circuits and to determine the circuit behaviour.

### Learning Outcomes for Module

### Indicative Student Workload

	Full Time	Part Time
<i>Contact Hours</i>		
Assessments	3	3
Lectures/Tutorials	25	25
Practical Exercises	9	9

### *Directed Study*

Self-directed study	48	48
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### *Private Study*

Private Study	65	65
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### Mode of Delivery

This is a lecture based course supplemented with tutorial sessions, laboratory exercises and student centred learning.

### Assessment Plan

Learning Outcomes Assessed
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## Module

On completion of this module, students are expected to be able to:

1. Describe electronic devices.
2. Design and analyze basic analogue circuits.
3. Design and analyze basic digital circuits.
4. Report on observations made on electronic circuits.

### Indicative Module Content

Signals and sources; characteristics, measurement and interpretation. Terminal characteristics of: diodes, bipolar transistors and FETs. Amplifier design and analysis. Boolean algebra, truth tables, and Karnaugh maps. Synthesis and analysis of basic combinational circuits. Sequential logic, flip-flops, registers and counters. Use of analogue and digital CAD software.

Component 1	4
Component 2	1,2,3,4

Component 2: Examination of 2.5 hours duration (paper-based and/or online) - weighted 70%

Component 1: Laboratory Logbook - weighted 30%

### Indicative Bibliography

1. BIRD, J.O., 2003. Electrical Circuit Theory and Technology. Rev 2nd ed. Oxford: Newnes
2. FLOYD, T., 2003. Digital Fundamentals. 8th Edition, Upper Saddle River, NJ: Prentice Hall.
3. STOREY, N., 2009. Electronics - A Systems Approach. 4th ed. London: Addison-Wesley.