This Version is No Longer Current
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MODULE DESCRIPTOR

Module Title

Introduction to Analogue Electronics and Signals

Reference	EN1512	Version	1
Created	April 2017	SCQF Level	SCQF 7
Approved	September 2017	SCQF Points	15
Amended		ECTS Points	7.5

Aims of Module

To provide an overview of common semiconductor devices used in analogue electronics, and develop basic skills in the design and analysis of fundamental analogue circuits.

Learning Outcomes for Module

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

1	Describe common analogue devices and explain the principles of operation.
2	Design and analyse basic circuits used in analogue and switching electronics.
3	Physically construct elementary analogue circuits, undertake testing and interpret signals.
4	Produce technical reports from focused lab study and wider self-investigation.

Indicative Module Content

Introduction to semiconductor devices used in routine analogue circuits: diodes, op-amps, bi-polar junction transistors, field effect transistors, thyristors/SCRs, diacs, triacs and uni-junction transistors. Overview of common analogue signals. Introduction to analogue concepts: bandwidth, gain/attenuation, single-ended/differential signals, waveform limiting/shaping, feedback, rectification/regulation, device modelling and noise. General outline of analogue circuit application areas.

Module Delivery

This is a taught module comprising of scheduled lectures, tutorials and laboratory exercises: underpinned by directed reading and student-centred learning.

Indicative Student Workload	Full Time	Part Time
Contact Hours	60	N/A
Non-Contact Hours	90	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	N/A
Actual Placement hours for professional, statutory or regulatory body		

Module Ref:	EN1512 v1

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type:	Examination	Weighting:	50%	Outcomes Assessed:	1, 2
Description:	Closed book assessed tutorials or online quizzes.				

Component 2

Type:	Coursework	Weighting:	50%	Outcomes Assessed:	3, 4
Description:	Practical design and analysis of fundamental analogue circuits.				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

To pass the module, you must achieve at least a 40% weighted average mark in the exam and coursework. In addition you need to achieve at least 35% in both the individual exam and coursework Components.

Module Grade	Minimum Requirements to achieve Module Grade:
A	>70%
B	60-69%
C	50-59%
D	40-49%
E	35-39%
F	0-34%
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	None, other than entry requirements for the course.
Corequisites for module	EN1513 Introduction to Digital Electronics and Systems.
Precluded Modules	None.

ADDITIONAL NOTES

An Indicative Bibliography will normally reference the latest edition of a text. In some cases, older editions are equally useful for students and therefore, those are the editions that may be stocked.

INDICATIVE BIBLIOGRAPHY

1	FLOYD, T.L., 2018. Electronic Devices. 10th ed. Pearson.
2	BEARDS, P., 2002. Analogue & Digital Electronics: A First Course. 2nd ed. Upper Saddle River, NJ: Prentice Hall.
3	BALMER, L., 1997. Signals & Systems: An introduction. 2nd ed. Prentice Hall.