

Module Code	EEU33C03
Module Name	Analogue Circuits
ECTS Weighting²	5 ECTS
Semester taught	Semester 2
Module Coordinator/s	Adjunct Assistant Professor April Graham
Module Learning Outcomes with reference to the Graduate Attributes and how they are developed in discipline	<p>On successful completion of this module, students should be able to:</p> <p>Explain the operation of the bipolar junction and MOS field effect transistors in terms of their equivalent circuits. Analyze simple linear amplifiers to determine their performance criteria and limitations. Explain Op-Amp ideal and practical characteristics Explain the Principles of Oscillation. Design amplifiers and oscillators based on the performance criteria. Explain the operation of D/A and A/D converters.</p> <p>Graduate Attributes: levels of attainment</p> <p>To act responsibly - Not embedded To think independently - Enhanced To develop continuously - Enhanced To communicate effectively - Enhanced</p>
Module Content	Analogue Electronics is a one semester module taken by Junior Sophister C Stream and Biomed students. It provides a thorough foundation in analogue circuits as applied to systems used in generating, amplifying and in general processing signals which are continuous functions of time. The module aims to provide students with knowledge of the operational principles and practical limitations of analogue circuits at device and circuit level, as well as instructing them in the analysis and design of these circuits. All of the principles and techniques learned are applicable to the design of analogue systems on a wider scale. During the module, students will develop the

¹ [An Introduction to Module Design](#) from AISHE provides a great deal of information on designing and re-designing modules.

² [TEP Glossary](#)

analytical and synthesis skills needed to design analogue circuits for electronic equipment intended for any modern application area.

Teaching and Learning Methods

e.g., lectures, seminars, online learning via VLE, field trips, laboratories, practice-based etc...

Assessment Details³

Please include the following:

- **Assessment Component**
- **Assessment description**
- **Learning Outcome(s) addressed**
- **% of total**
- **Assessment due date**

Assessment Component	Assessment Description	LO Addressed	% of total	Week due
Written Exam	Written Exam		85	
Labs	Labs		15	

Reassessment Requirements

Contact Hours and Indicative Student Workload³

Contact hours:

33

Independent Study (preparation for course and review of materials):

20

Independent Study (preparation for assessment, incl. completion of assessment):

55

Recommended Reading List

Microelectronic Circuits. A.S. Sedra and K.C. Smith, 7th Edition 2014.

³ [TEP Guidelines on Workload and Assessment](#)

	Solid State Electronic Devices, Streetman and Banerjee, 7th Edition.
Module Pre-requisite	EEU22E06 or equivalent
Module Co-requisite	
Module Website	
Are other Schools/Departments involved in the delivery of this module? If yes, please provide details.	No
Module Approval Date	
Approved by	
Academic Start Year	
Academic Year of Date	