

<b>Module Code</b>	<b>EEU33C09</b>
<b>Module Name</b>	Analogue Circuit Design Project
<b>ECTS Weighting<sup>2</sup></b>	5 ECTS
<b>Semester taught</b>	Semester 2
<b>Module Coordinator/s</b>	Dr Justin King
<b><a href="#">Module Learning Outcomes</a> with reference to the <a href="#">Graduate Attributes</a> and how they are developed in discipline</b>	<p>On successful completion of this module, students should be able to:</p> <ul style="list-style-type: none"> <li>• (LO1) Interpret a problem and establish a circuit design task from a project description.</li> <li>• (LO2) Design an analogue electronic circuit to accomplish a specified task.</li> <li>• (LO3) Construct an electronic circuit on breadboard using standard components.</li> <li>• (LO4) Test and debug an electronic circuit using standard laboratory equipment to verify its performance.</li> <li>• (LO5) Write a comprehensive technical report outlining the design and test procedure.</li> </ul> <p><b>Graduate Attributes: levels of attainment</b></p> <p>To act responsibly - Enhanced  To think independently - Attained  To develop continuously - Attained  To communicate effectively - Enhanced</p>
<b>Module Content</b>	<p>Please provide a brief overview of the module of no more than 350 words written so that someone outside of your discipline will understand it.</p> <p>Students will work in small groups of two to carry out the analogue circuit design project. The project will be given as a description of an instrumentation-based problem which is to be solved by the use of an analogue circuit. Students will be expected to interpret the problem as defined and propose a circuit based solution to the problem. They will then design an analogue circuit using the principles learned in lectures to implement the proposed solution and construct this circuit on breadboard using standard commercially available components which will be supplied in the laboratory. Laboratory test equipment will then be used to test and debug the circuit which will be modified or redesigned as required to meet the performance requirements. Each student will write up an individual technical report which will be</p>

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

<sup>2</sup> [TEP Glossary](#)

submitted as part of the project on its completion.

**Teaching and Learning Methods**

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

The students will be expected to work largely on their own initiative, in pairs. The member of academic staff responsible for the project will be in attendance, supported by demonstrator assistance. They will circulate among groups to see how students approach the problem and implement a design solution. Advice and guidance will be offered on their progress and to keep them on track towards a realistic and viable circuit design. They will also be given the technical support needed with the use of test equipment in verifying the functionality of their circuits on breadboard. However, students will be encouraged to think for themselves and come up with their own ideas and solutions to problems.

**Assessment Details<sup>3</sup>**

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
Laboratory Report	Assignment	LO1 – LO5	100	End of Semester

**Reassessment Requirements**

<sup>3</sup> [TEP Guidelines on Workload and Assessment](#)

<b>Contact Hours and Indicative Student Workload<sup>3</sup></b>	<b>Contact hours:</b> 30 hours
	<b>Independent Study (preparation for course and review of materials):</b> 60 hours
	<b>Independent Study (preparation for assessment, incl. completion of assessment):</b> 10 hours
<b>Recommended Reading List</b>	See Blackboard
<b>Module Pre-requisite</b>	EEU22E06 or equivalent
<b>Module Co-requisite</b>	EEU33C03 (suggested)
<b>Module Website</b>	See Blackboard
<b>Are other Schools/Departments involved in the delivery of this module? If yes, please provide details.</b>	No
<b>Module Approval Date</b>	
<b>Approved by</b>	
<b>Academic Start Year</b>	2020
<b>Academic Year of Date</b>	2019/2020