

<b>Module Code</b>	TG-2303		
<b>Module Title</b>	Measurement and Instrumentation		
<b>Degree/Diploma</b>	Bachelor of Engineering Degree		
<b>Type of Module</b>	Major Option		
<b>Modular Credits</b>	2	<b>Total student Workload</b>	4 hours/week
		<b>Contact hours</b>	2 hours/week
<b>Prerequisite</b>	None		
<b>Anti-requisite</b>	None		
<b>Aims</b>			
This module focuses on transducers and instrumentation in engineering systems, including measurement and data collection, signal conditioning and amplification.			
<b>Learning Outcomes</b>			
<i>On successful completion of this module, a student will be expected to be able to:</i>			
Lower order :	30%	- comprehend concepts of measurements and instrumentation - comprehend data acquisition	
Middle order :	40%	- analyse data acquisition including analogue to digital conversion - apply the principles of measurement and instrumentation to solve systems engineering problems	
Higher order:	30%	- perform computer-based measurements and control systems - value team performance when working in groups	
<b>Module Contents</b>			
- Transducers for measuring physical parameters including but not limited to pressure, flow rate, temperature, level, volume and other parameters of engineering systems			
- Instrumentation and data acquisition including errors in measurement, analogue to digital conversion, microprocessor and computer-based measurement and control systems			
- Operational amplifiers and their use in instrumentation			
<b>Assessment</b>	Formative assessment	Monthly quizzes will be used to test and to give feedback for their learning	
	Summative assessment	Examination: 50% Coursework: 50% - 2 class tests (15% each) - 2 individual assignments (10% each)	