ADVANCED DIPLOMA OF BIOMEDICAL ENGINEERING

MODULE DETAILS	MODULE 5: PRINTED CIRCUIT BOARD DESIGN
	Nominal duration: 4 weeks (48 hours total time commitment) This time commitment includes the preparation reading, attendance at each webinar (1 hour plus 15-30 minutes for discussion), and the time necessary to complete the assignments and further study.
MODULE PURPOSE	To identify and assess the concepts of printed circuit board design starting from the schematic through to a finished circuit board and the various stages PCB design. This module will also aim to impart the basic skills required for carrying out the design of a PCB using Windows based Electronic Design Automation software.
PRE-REQUISITES MODULE, UNITS / CO-REQUISITES	Nil
ASSESSMENT STRATEGY	To evaluate the achievement of the learning outcomes; written assignments, group projects and practical exercises are set.
SUMMARY OF LEARNING OUTCOMES	1. Prepare for making a PCB layout 2. Create a PCB layout
Learning Outcome 1	**Prepare for making a PCB layout**
Assessment Criteria	1.1. Create a schematic for a circuit with one or more DIL packages as well as discrete components 1.2. Specify components and pin names 1.3. Generate a parts list

Learning Outcome 2	**Create a PCB layout**
Assessment Criteria	2.1 Create a double-sided PCB layout for the circuit, with emphasis on: (a) Copper areas (ground) (a) Text (b) Solder masks and cut-outs (c) Drill file (d) Gerber file
Delivery Mode	
A combination of asynchronous and synchronous e-learning delivery comprising a judicious mix of interactive online web conferencing, simulation (virtual labs) software, remote online labs, online videos, PowerPoints, notes, reading and study materials (in pdf, html and word format) accessed through the Moodle Learning Management System (LMS).	