

ADVANCED DIPLOMA OF BIOMEDICAL ENGINEERING

MODULE DETAILS	MODULE 18: MEDICAL INFORMATICS AND TELEMEDICINE
	<p>Nominal duration: 4 weeks (48 hours total time commitment)</p> <p>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.</p>
MODULE PURPOSE	To provide the participants with an overview of information systems in the field of medicine, particularly in the hospital environment. Participants will learn the basic concepts of electronic medical records, information systems in hospitals, central patient care and monitoring systems, and telemedicine systems.
PRE-REQUISITES MODULE, UNITS / CO-REQUISITES	Module 3: Fundamentals of Professional Engineering
ASSESSMENT STRATEGY	To evaluate the achievement of the learning outcomes; written assignments, group projects and practical exercises are set.
SUMMARY OF LEARNING OUTCOMES	<ol style="list-style-type: none"> 1. Examine and discuss the essentials of Medical Informatics 2. Examine and discuss computer systems for patient care and administration 3. Examine and discuss the concept of telemedicine 4. Examine and discuss wireless systems for telemedicine
Learning Outcome 1	Examine and discuss the essentials of Medical Informatics
Assessment Criteria	<ol style="list-style-type: none"> 1.1 Examine and discuss relevant Informatics standards and protocols 1.2 Examine and discuss relevant data communication and imaging protocols 1.3 Examine the concept of data analysis in a Medical Informatics context 1.4 Describe the wired and wireless data communication networks as used in Medical Information systems 1.5 Describe the setup of an Enterprise-wide Medical Information network

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Learning Outcome 2	Examine and discuss computer systems for patient care and administration
Assessment Criteria	2.1 Examine and discuss the relevant aspects of: (a) Computer systems for patient administration (b) Computer systems for centralized patient monitoring
Learning Outcome 3	Examine and discuss the concept of telemedicine
Assessment Criteria	3.1 Examine and discuss the standards and safety issues related to telemedicine 3.2 Describe typical telemedicine products and their application 3.3 Discuss the application of hardware and software tools for telemedicine product/system development
Learning Outcome 4	Examine and discuss wireless systems for telemedicine
Assessment Criteria	4.1 Examine and discuss the salient attributes of wireless systems for telemedicine in general 4.2 Examine and discuss the characteristics of wearable systems and antennas for telemedicine applications
Delivery Mode	
<p>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).</p>	