Module Code	TF-4303			
Module Title	Info-Communication Networks			
Degree/Diploma	Bachelor of Engineering Degree			
Type of Module	Major Option			
Modular Credits	2	**Total student Workload**	4	hours/week
		Contact hours	2	hours/week
Prerequisite	None			
Anti-requisite	None			

Aims

The module discusses problems of networking; from sending bits over wires to running distributed systems. This module explores the different network design strategies and discusses the potential problems that may be encountered, to allow the student to apply the knowledge in understanding info-communication networks as well as to design robust and secure networks.

Learning Outcomes

On successful completion of this module, a student will be expected to be able to:

Lower order:	30%	- describe the functions of networks and inter-relate the different network layers - understand the functions of different network components
Middle order :	30%	- identify weakness/strength for a given network configuration - investigate different problems and solutions that may be encountered for different network configurations
Higher order:	40%	- develop system requirements from given user requirements - design, plan and justify suitable networks to achieve a given objective - discuss the advantages/disadvantages of different available options

Module Contents

- Overview of info-communication networks
- Networking fundamentals
- Layering of the Open System Interconnection (OSI) model and the TCP/IP protocol suite
- Physical and Data Link Layer
- Network layer; Internet Protocol concept, IPv4, IPv6, IP NAT, IP Sec, Mobile IP
- IP Routing; Intra and inter-domain routing
- Transport Layer; UDP vs TDP, reliability
- Session, Presentation and Application Layers; TCP/IP key applications; email, https
- Basic Network Security

Assessment	Formative assessment	Regular quizzes will be used to test and to give feedback on their learning
	Summative assessment	Examination: 40%
		Coursework: 60% - 2 class tests (10% each) - 2 assignments (20% each)