Course Title: Data Communications Laboratory

Course Code: EE2371

Units: 1

Level: B2

Course Aims & Objectives:
This course consists of experiments which cover the syllabus of course EE3015 Computer Networks. The objectives is to cover the most important parts of the syllabus of the course EE3015 so that students will reinforce their learning received in lectures and tutorials by practical, experimental means.

Intended Learning Outcomes:
On completion of this course, the students will be able to

1. Apply the concepts, techniques, and structures of data communication networks; especially the Internet.
2. Describe and use different components, techniques, structures and standards in data communication networks.
3. Set up a small LAN and configure network setting of PCs; make UTP cables and perform cable testing; configure modem and set up broadband routers.

Syllabus:
This course consists of four units of experiments as follows:

Unit 1: Components of a small computer networks and Internet Basics
This unit includes setting up a small LAN; network setting of PCs; Internet applications: telnet, ftp, Internet search engine; and IP phone.

Unit 2: TCP/IP Protocol Suite
This unit includes experiments on Application Layer: HTTP, SMTP, POP, DNS; experiment on TCP: port number; experiments on IP: ping, arp, trace, and route print.

Unit 3: Data Transmission and Transmission Media
This unit includes experiments on Signals RS232 and null modem; making of UTP cables and cable testing.

Unit 4: Internet Access Methods
This unit includes modem configurations and setting up broadband routers.

Laboratory Experiment:
Nil
Teaching pattern:
  
  * Duration of course: 1 semester
  * Suggested lecture/tutorial/laboratory mix: Lecture Hour: N/A
  *                                      Tutorial Hour: N/A
  *                                      Laboratory Hour: 26 hours

Assessment pattern:
  
  * Examination duration: N/A
  * Percentage of coursework, examination, etc.: 100% CW

Assessment consists of two parts: the lab log book and an online test. For a student to pass the course, a laboratory attendance of at least 75% recorded.

Pre-requisites: (please quote course code & title)
Nil

Pre-cursor: (please quote course code & title)
Nil

Exclusive Course: (please quote course code & title)
Nil

Equivalent Courses: (please quote course code & title)
Nil

Equivalent to the Old Course Code and Title: (please quote course code & title)
Nil

Textbook:
Nil

Reference Book:
Nil