Course Code	Course Title	L	T	P	C
BECE401P	**Computer Communications and Networks Lab**	**0**	**0**	**2**	**1**
Pre-requisite	**BECE306L, BECE306P**	**Syllabus Version**

		**1.0**

Course Objectives:

1. To familiarize the students with the basic terminologies and concepts of OSI, TCP/IP reference model and functions of various layers.
2. To make the students understand the design and performance issues associated with the functioning of LANs and WLANs.
3. To introduce the students to analyze the IP addressing and basics of transport and application layer protocols.

Course Outcome:

The students will be able to:

1. Analyze the performance of internetworking devices and network topologies using simulation tools.
2. Analyze the performance of error detection and medium access control protocols using simulation tools.
3. Implement and analyze the routing algorithms and transport layer protocols using simulation tools.

List of Challenging Experiments (Indicative)

Task 1	Simulation and performance analysis (in terms of PDR, delay) of different network topologies and queuing mechanisms.	**6 hours**
Task 2	Analyze the spanning tree algorithm by varying the priority among the switches.	**4 hours**
Task 3	Simulation of framing and error detection schemes.	**4 hours**
Task 4	Simulation and performance analysis of different Medium Access Control schemes.	**4 hours**
Task 5	Implementation of various routing algorithms to compute the shortest path.	**6 hours**
Task 6	Analysis of transport layer protocols and congestion control.	**6 hours**
\multicolumn{2}{r	}{**Total Laboratory Hours**}	**30 hours**

Mode of Assessment: Continuous Assessment and Final Assessment Test

Recommended by Board of Studies	14-05-2022		
Approved by Academic Council	No. 66	Date	16-06-2022