Course Code	Course Title	L	T	P	C
BECE308P	Optical Fiber Communications Lab	0	0	2	1
Pre-requisite	BECE306L, BECE306P	Syllabus version			
		1.0			

Course Objectives

1. To design the optical communication system and study the signal degradation.
2. To familiarize wavelength division multiplexing techniques and associate components.
3. To estimate the link power budget and rise time budget.

Course Outcome

At the end of the course, the students will be able to:

1. Establish the optical link and estimate the design parameters.
2. Analyse the optical amplifiers and evaluate their characteristics.
3. Design and analyse the WDM techniques and components.

Indicative Experiments

1.	Design of optical transmission link to analyse the BER performance for different line coding techniques, modulation based on wavelength and length of the fiber.	**6 hours**
2.	Design and analysis of gain, noise figure and saturation of optical amplifier – EDFA, SOA.	**4 hours**
3.	Performance analysis of wavelength division multiplexing (WDM) techniques and passive optical components (Optical coupler, Isolator, Circulator, FBG & OADM)	**8 hours**
4.	Analyse the different dispersion compensation techniques and fiber non-linear effects.	**8 hours**
5.	Design of point-to-point optical system, estimate the power and rise-time budget and detect the fiber faults using OTDR.	**4 hours**
	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