1.	Title of the course	Compound Semiconductor Devices
2.	Course number	EE520L
3.	Structure of credits	3-0-0-3
4.	Offered to	PG
5.	New course/modification to	Modification To EE5033/10
6.	To be offered by	Department of Electrical Engineering
7.	To take effect from	January 2022
8.	Prerequisite	CoT
9.	**Course Objective(s):** To introduce the properties of most widely used compound semiconductors, high-speed devices and circuits.	
10.	**Course Content:** High-speed performance metrics for devices and circuits, Si based devices for high-speed operation and their limitations, technology of compound semiconductor devices and their suitability for high speed operation, metal-semiconductor contacts and MOS devices, Metal Semiconductor Field Effect Transistors (MESFETs), High Electron Mobility Transistors (HEMTs), Heterojunction Bipolar Transistors (HBTs), optoelectronic devices: solar cells, photodiodes, LEDs and LASERS on compound semiconductors, high-speed circuits: direct coupled FET Logic, Schottky diode FET logic, FET Amplifiers and MMICs.	
11.	**Textbook(s):** 1. Gandhi S K, *VLSI Fabrication Principles: Silicon and Gallium Arsenide*, John Wiley & Sons (2013).	
12.	**Reference(s):** 1. Ashburn P, *SiGe Heterojunction Bipolar Transistors*, John Wiley & Sons (2003). 2. Chang C Y and Kat F, *GaAs high speed devices: Physics, Technology and circuit applications*, John Wiley & Sons (1994). 3. Shur M, *GaAs Devices & Circuits* , Plenum Press (1987). 4. Sze S M, *High Speed Semiconductor Devices*, John Wiley & Sons (1990).	