

1.	Title of the course	Engineering Electromagnetics
2.	Course number	EE308L
3.	Structure of credits (L-T-P-C)	3-1-0-4
4.	New course/modification to	Modified with EE203L/ENGINEERING ELECTROMAGNETICS
5.	To be offered by	Electrical Engineering
6.	Proposed by	Srujana Kagita
7.	Prerequisite	None
8.	Course Objective(s): To provide an exposure to the advanced concepts of electromagnetic field theory and discuss its applications to engineering.	
9.	Course Content: Overview of static electric and magnetic fields, Maxwell's equations, boundary conditions; Plane electromagnetic waves, propagation in free space and in matter, reflection and refraction of waves at conducting and dielectric boundary; Transmission lines: TEM (Transverse Electromagnetic) waves, transmission line equations, wave propagation along finite transmission lines, characteristic impedance, impedance matching, impedance transformation, quarter-wave transformers, single-stub matching, Smith chart, S-parameters; Waveguides, waves in guided media, parallel plate waveguide, rectangular waveguide, cavity resonators; Basic theory of antennas and radiation characteristics, elementary types of antennas, dipole and monopole antennas.	
10.	Textbook(s): 1. Sadiku M N and Kulkarni S V, Elements of Electromagnetics, 5th Edition, Oxford (2015). 2. Ulaby F T, Fundamentals of Applied Electromagnetics, 5th Edition, Prentice Hall (2014).	
11.	Reference(s): 1. Cheng D K, Field and Wave Electromagnetics, 2nd Edition, Pearson (2014). 2. Hayt W H, Buck J A and Akhtar M J, Engineering Electromagnetics, 8th Edition, McGraw Hill (2018). 3. Rao N N, Elements of Engineering Electromagnetics, 5th Edition, Pearson (2006).	