

1.	Title of the course	Reinforced Concrete Design
2.	Course number	CE311L
3.	Structure of credits (L-T-P-C)	2-1-0-3
4.	New course/modification to	Modified with CE306L/BASIC REINFORCED CONCRETE DESIGN
5.	To be offered by	Civil and Environmental Engineering
6.	Proposed by	Behera Prasanna Kumar
7.	Prerequisite	None
8.	Course Objective(s): To explain the basic design concepts of reinforced concrete members subjected to gravity loading within the framework of Indian codes of practice, i.e., IS 456.	
9.	Course Content: Introduction: concrete as a structural material, shrinkage and creep of concrete, reinforcing steel bars; Loadings; Basic design concepts: working stress method, ultimate load method and limit state method; Members under flexure: moment curvature relationship, design of rectangular beams, design of flanged sections, design of one way and two way slabs; Design for shear, torsion and bond; Design of compression members: short columns under axial compression, short columns under axial compression and uniaxial bending; Design of footings for axial compression.	
10.	Textbook(s): 1. Pillai S U and Menon D, Reinforced Concrete Design, 4th Edition, Tata McGraw-Hill (2016).	
11.	Reference(s): 1. Subramanian N, Design of Reinforced Concrete Structures, Oxford University Press (2013). 2. Wight J K and MacGregor J G, Reinforced Concrete: Mechanics & Design, 6th Edition, Prentice-Hall International (2016). 3. Varghese P C, Limit State Design of Reinforced Concrete Design, 2nd Edition, Prentice-Hall (2010). 4. Wang C, Salmon C G and Pincheira J, Reinforced Concrete Design, 8th Edition, John Wiley (2017).	