

Course Title	Software Engineering
Course Code	CC-212
Credit Hours	3
Category	Computing Core
Prerequisite	None
Co-Requisite	None
Follow Up	None
Course Description	<p>Introduction: Nature of Software, Overview of Software Engineering, Professional software development, Software engineering practice, Software process structure, Software Process Models: Waterfall Model, Incremental Model, Prototyping Model, Spiral Model, RAD Model. Agile Software Development: Agile process models, Agile development techniques. Introduction to Project Management, Introduction to Requirements Engineering, Functional and non-functional requirements. Analysis Model: Context models, Interaction models, Structural models, behavioral models, model driven engineering, Data modeling, Functional Modeling, Behavioral Modeling. Software Design: Data Design, Architectural Design, Component Level Design, User Interface Design. Object Oriented Analysis & Design Basics: Introduction to UML, UML Diagrams. Use Case Modeling, Rational Rose overview, Use case modeling in Rational Rose. Domain Model: Identifying business classes, Domain Model Associations, Domain Model Attributes, Implementation of Sequence Diagram and Domain model in Rational Rose. Interaction Diagram: Sequence diagrams, Collaboration Diagrams, Implementation of Sequence and Collaboration diagrams in Rational Rose. Design Class Diagram, Mapping Design to Code. Software Testing Fundamentals. Design patterns, Software testing and quality assurance. Software evolution. Project Management: Project planning, configuration management. Software Process improvement.</p>
Text Book(s)	1. Ian Sommerville, Software Engineering, 10 th Edition, Pearson, 2015, ISBN-13: 978-0133943030.
Reference Material	1. Carlo Ghezzi, Mehdi Jazayeri, Dino Mandrioli, Fundamentals of Software Engineering, 2nd Edition, Pearson, 2002, ISBN-13: 978-0133056990.