CSCA 511: SOFTWARE ENGINEERING

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Pre-requisite:

- Familiarity with Programming in Object Oriented Languages

Objectives:

- To Introduce Different Software Life Cycle Models
- To Understand the Significance of Software Development Process
- To Design and Develop Robust Software Products

Outcomes:

- Ability to understand various phases of software development life cycle.
- Ability to acquire software project management skills.

Module-I: Introduction to Software Engineering (9 Hrs)
Software Process Structure – Process Models & Activities – Agile Development - Requirements Engineering.

Module-II: Software Modeling (9 Hrs)
Design Concepts - Architectural Design - Component Level Design – User Interface Design- Web Application Design.

Module-III: Software Quality Management (9 Hrs)
Review Techniques - Software Quality Assurance – Software Testing Strategies – Software Configuration Management – Product Metrics.

Module-IV: Managing Software Projects (9 Hrs)
Project Management Concepts – Process and Project Metrics – Estimation for Software Projects – Project Scheduling - Risk Management.

Module-V: Software Reliability & Security (9 Hrs)
Reliability Engineering- Reliability and availability – Reliability Testing. Security Requirements & Design.

Text Books:

1. Roger S. Pressman, Software Engineering: A Practitioner's Approach, McGraw-Hill Education, 8th edition, 2014.
2. Ian Summerville, Software Engineering, Pearson Publishers, 10th Edition, 2015.