# Course Outline

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| **Course Code** | : | CSE 417 |
| **Course Title** | : | Software Engineering & Design Pattern |
| **Credit Hours** | : | 3.0 |
| **Prerequisite** | : | Object Oriented Programming |
| **Course Contents** | : | ☐ Introduction to Software Engineering, The Process of Software Development, General Principles of Software Engineering, Software Myths, General Issues, Software Engineering Ethics.<br>☐ Software Process Models: Waterfall model, V-shaped model, Incremental model, Agile Development, Scrum.<br>☐ Requirement Engineering, Software Requirement Specification (SRS).<br>☐ Data flow diagrams, Levels in Data Flow Diagrams.<br>☐ Software Project management, Risk management.<br>☐ Software testing: strategies and tactics, Maintenance and reengineering: software maintenance, supportability, reengineering, Object oriented testing, Reliability and performance, Software quality assurance.<br>☐ System modeling: UML, Use Case, Activity, Sequence Diagram, Class Diagram etc.<br>☐ Software Design Patterns: Singleton, Factory, Strategy, Command, Observer, Adapter, Facade, Iterator, Composite, State, Proxy.<br>☐ SOLID Principles. |