Weekly course plan

|  |  |
| --- | --- |
| **Week** | **Topic** |
| 1 | Introductory discussion, Class Diagram |
| 2 | Intro to design pattern, Creational DP: Factory, Abstract Factory, Singleton, Builder, etc. |
| 3 | Structural DP: Adapter, Decorator, Façade, Composite, etc. |
| 4 | Behavioral DP: State, Strategy, Observer, etc. |
| 5 | Behavioral DP: Chain of Responsibility, Mediator, etc. |
| 6 | Review of design patterns |
| 7 | Software Testing Basics, Different types of software white and black box testing methods |
| 8 | Equivalence Partitioning, Unit testing and other Methods/concepts |
| 9 | Automated Testing, Security and Performance Testing |
| 10 | Project management concepts: software process and project metrics, software project planning, risk analysis and management |
| 11 | Project scheduling and tracking, software cost analysis, COCOMO model; |
| 12 | Software quality assurance: quality factors, software quality measures, cost impact of software defects, concepts of software reliability, availability and safety. |
| 13 | Function based metrics and bang metrics, metrics for analysis and design model, metrics for source code, code smells. |
| 14 | Review |