Course Timeline

Here is a suggested timeline for covering the topics in a 3-month course:

Month 1: Foundations of Software Engineering (Weeks 1-4)

* Week 1: Introduction to Software Engineering, Nature of Software
■+ Topics: Software definition, characteristics, types, and role in society
■+ Overview of software engineering, its importance, and historical context
* Week 2: Overview of Software Engineering
■+ Topics: Software development life cycle, software engineering disciplines, and professional software
■+ Software engineering principles, ethics, and code of conduct
* Week 3: Software Engineering Practice
■+ Topics: Software development methodologies, software engineering activities, and software engineer
■+ Introduction to software process structure and software process models
* Week 4: Agile Software Development
■+ Topics: Introduction to Agile, Agile principles, and Agile values
■+ Overview of Agile process models and Agile development techniques

Month 2: Requirements Engineering and Design (Weeks 5-8)

* Week 5: Requirements Engineering Process
■+ Topics: Introduction to requirements engineering, requirements elicitation, and analysis
■+ Functional and non-functional requirements, and requirements documentation
* Week 6: Context Models and Interaction Models
■+ Topics: Context modeling, interaction modeling, and system modeling
■+ Introduction to structural and behavioral models
* Week 7: Architectural Design and Model-Driven Engineering
■+ Topics: Introduction to architectural design, design principles, and design patterns
■+ Model-driven engineering, UML diagrams, and architectural views
* Week 8: Design and Implementation
■+ Topics: Detailed design, implementation, and coding
■+ Design patterns, coding standards, and best practices

Month 3: Testing, Quality Assurance, and Project Management (Weeks 9-12)

* Week 9: Software Testing and Quality Assurance
■+ Topics: Introduction to software testing, testing levels, and testing types
■+ Quality assurance, quality metrics, and testing frameworks
* Week 10: Software Evolution and Maintenance
■+ Topics: Software evolution, software maintenance, and software re-engineering
■+ Introduction to project management and project planning
* Week 11: Configuration Management and Change Control
■+ Topics: Configuration management, version control, and change control
■+ Introduction to software process improvement
* Week 12: Project Management, Planning, and Software Process Improvement
■+ Topics: Project management, project planning, and resource allocation
■+ Software process improvement, ISO/IEC 15504, and CMMI

This timeline allows for a balanced coverage of the topics, with a gentle introduction to software engineer