

Schedule

Week 1

- Mon**
- Goals:
 - Basic comfort with Java
 - Basic setup with IntelliJ
 - Topics:
 - (Java/OOP) classes, fields, constructors, encapsulation
 - (Java/OOP) methods, parameters, local variables, constants/final
 - (Java/OOP) static methods
 - Activities for Day 1¹
 - Lunchtime Video: Clean Code-Remake (54m)²
- Tue**
- Goals:
 - Variable and function basic principles
 - Basic refactorings: extract variable/field/method, rename, inline
 - Function size principles (“extract till you drop”)
 - Prep:
 - Read *Clean Code*³, chapters 1-3
 - Watch Names++⁴
 - Topics:
 - (Coding) naming variables and methods
 - (Coding) extracting code into small functions
 - Activities for Day 2⁵
 - Lunchtime Video: Refactoring screencast “2”: Prime generator⁶
- Wed**
- Goals:
 - Comment and Code formatting principles
 - Function structure principles
 - Prep:
 - Read *Clean Code*⁷, chapters 4, 5
 - Watch Function Structure video selected parts⁸
 - Topics:

¹[lessonPlans/lessonPlanDay01.html](#)

²[videos/01-clean_code.html](#)

³<https://learning.oreilly.com/library/view/clean-code/9780136083238/>

⁴[videos/02-names.html](#)

⁵[lessonPlans/lessonPlanDay02.html](#)

⁶[videos/04-prime_gen_screencast.html](#)

⁷<https://learning.oreilly.com/library/view/clean-code/9780136083238/>

⁸[videos/05-function_structure.html](#)

- (Coding) function parameters, command-query separation
- (Coding) comments and formatting
- Activities for Day 3⁹
- Lunchtime Video: Form¹⁰

- Thu**
- Goals:
 - Deep dive into extension mechanisms: inheritance and delegation
 - Discussion of the concept and value of polymorphism and information hiding
 - “Tell, don’t ask”
 - Prep:
 - Read *Design Patterns*, chapter 1.6
 - Read *Clean Code*¹¹, chapter 6
 - Topics:
 - (Java/OOP) Inheritance vs Composition
 - (Coding) Law of Demeter (Tell, don’t ask)
 - Activities for Day 4¹²
 - Lunchtime Video: TDD Part 1¹³

- Fri**
- Goals:
 - Code tracking with Version Control
 - Automated Testing and Test-driven development
 - Prep:
 - Read *Clean Code*¹⁴, chapter 9
 - Topics:
 - (Practices) Version Control Basics
 - (Practices) Test-Driven Development
 - Activities for Day 5¹⁵
 - Lunchtime Video: TDD Part 2¹⁶

Week 2

- Mon**
- Goals:
 - Exam 1

⁹[lessonPlans/lessonPlanDay03.html](#)

¹⁰[videos/06-form.html](#)

¹¹<https://learning.oreilly.com/library/view/clean-code/9780136083238/>

¹²[lessonPlans/lessonPlanDay04.html](#)

¹³[videos/07-tdd_part1.html](#)

¹⁴<https://learning.oreilly.com/library/view/clean-code/9780136083238/>

¹⁵[lessonPlans/lessonPlanDay05.html](#)

¹⁶[videos/08-tdd_part2.html](#)

- Introduction to Agile Methodologies
- Introduction to the SOLID design principles and SRP
- Introduce User Roles/Actors in context of SOLID principles
- (Practices) Principles of Agile Development
 - Discussion of XP methodologies (pair programming, tests first etc)
- (Principles) Single Responsibility Principle
 - Reading: ASD chapters 7, 8
 - Videos: In class: notes #1 and #2
- Activities for Day 6¹⁷
- Prep:
 - Reading: ASD chapters 1-4

Tue

- Goals:
 - Interfaces and dependency inversion (lamp example)
 - Introduction to Open-Closed Principle
- (Principles) General values and principles for coding
- (Java/OOP) Interfaces
- (Principles) Open-Closed Principle
 - Reading: ASD chapter 9
 - Video: In class
- (Principles) Liskov Substitution Principle
 - Video: In class
 - Reading: ASD chapter 10
- Goals:
 - Dependency Inversion Principle
 - Interface Segregation Principle
 - SOLID Principles Wrap-up Example
- (Principles) Dependency Inversion Principle
 - Video: In class
 - Reading: ASD chapter 11
- (Principles) Interface Segregation Principle
 - Video: In class
 - Reading: ASD chapter 12
- Activities for Day 7¹⁸
- Prep:
 - Reading: ASD chapters 7-8

¹⁷lessonPlans/lessonPlanDay06.html

¹⁸lessonPlans/lessonPlanDay07.html

- Wed**
- Goals:
 - Reinforce the SOLID Principles understanding with a use case example.
 - Become comfortable with user roles and user stories
 - Be introduced to the projects and meets with clients to create initial requirements and user stories.
 - (Practices) SOLID Principles Use Case (as in Clean Code video #14)
 - Activities for Day 8¹⁹
 - (Project) Initial client meetings
 - Prep:
 - Reading: From “User Stories Applied”: Chapters 2, 3, 4
- Thur**
- Goals:
 - Liskov Substitution Principle and SOLID Principles wrap-up
 - Clean Tests
 - Test Design
 - Test Process
 - Activities for Day 9²⁰
- Fri**
- Goals:
 - Mocking
 - Activities for Day 10²¹
 - (Project) Iteration 0 with clients

Week 3

Design Patterns in the morning; Work on project in the afternoon

- Mon**
- Goals:
 - Planning: CRC Cards, Acceptance Tests
- Tue**
- Exam 2
 - Work on Project
- Wed**
- (Patterns) Command
 - Video: Clean Code: Design Patterns
 - Reading: ASD chapter 13
 - (Patterns) Template Method, Strategy
 - Video: Strategy and Template Method Patterns
 - Reading: ASD chapter 14

¹⁹[lessonPlans/lessonPlanDay08.html](#)

²⁰[lessonPlans/lessonPlanDay09.html](#)

²¹[lessonPlans/lessonPlanDay10.html](#)

- Work on Project
 - Thu**
 - (Patterns) Factory
 - Video: Clean Code: Factories
 - Reading: ASD chapter 21
 - (Patterns) Facade, Mediator
 - Video: Clean Code: Pattern Roundup
 - Reading: ASD chapter 15
 - Work on Project
 - Fri**
 - (Patterns) Null Object
 - Video: Clean Code: Pile O'Patterns
 - Reading: ASD chapter 16
 - (Patterns) Singleton, Monostate
 - Video: Clean Code: Pile O'Patterns
 - Reading: ASD chapter 17
 - Work on Project
- Week 4**
- Mon**
 - (Patterns) Observer
 - Video: The Observer Pattern
 - Reading: ASD chapter 24
 - (Patterns) Adapter, Bridge, Proxy
 - Video: Clean Code: Pile O'Patterns
 - Reading: ASD chapters 25, 26
 - Work on Project
 - Tue**
 - (Patterns) Composite
 - Reading: ASD chapter 23
 - (Patterns) Visitor
 - Reading: ASD chapter 28
 - Work on Project
 - Wed**
 - Exam
 - Work on Project
 - Thu**
 - (Patterns) State
 - Video: Finite State Machines and State Pattern
 - Reading: ASD chapter 29
 - Work on Project
 - Work on Project
 - Fri**
 - Work on Project
 - End early, final demo