

LABORATORY SCHEDULE

Week	Course Lecture Topic	Laboratory activities	Project activities	Deliverables
W1	OO Concepts Review, Class design principles (SOLID)	Revision exercises (OOP, UML)	Discuss projects / choose project	
W2	Class design principles (GRASP) Package Design Principles	Revision exercises 2 (OOP, UML) Class design/package design principles Database modeling exercises	Final deadline for choosing the project Project Deliverable 1 – presentation and discussion - Inception: Software Requirements, Vision, Use Case Model, Supplementary Specification, Glossary	L1_Revision Homework: all problems resolved
W3	Architectural Patterns (Layers, Client-server, Broker, MVC)	Architectural patterns and styles – A1 – exercises Assignment presentation and discussion	Project Deliverable 1 – progress and discussion	
W4	Architectural Patterns (Service-based (SOA, microservices), service design process)	Architectural patterns and styles Assignment A1 – progress and discussion	Project Deliverable 2 – presentation and discussion Elaboration – Iteration 1.1: Domain Models, Architectural Design (architectural patterns and styles, package design, component diagrams, deployment diagrams)	Project Deliverable 1: Project Analysis and Design (I. Project Specification, II. Elaboration Iteration, V. Construction and Transition) Use Case Model, Supplementary Specification, Glossary documents
W5	Patterns for Enterprise Application Architecture [Fowler] Intro, Business Logic (Transaction Script, Domain Model)	Architectural patterns and styles	Project Deliverable 2 – progress and discussion	Assignment A1
W6	Live coding	ORM exercises Assignment A2 – presentation and discussion		Project Deliverable 2: Domain Model, Architectural Design, Component and Deployment diagrams
W7	Midterm?	*discuss creational patterns (course 8) Assignment A2 – progress and discussion	Project Deliverable 3 – presentation and discussion Elaboration – Iteration 1.2: Design Model (UML sequence, collaboration diagrams, UML class diagrams, design patterns), Data Model	
W8	Patterns for Enterprise Application Architecture [Fowler] Object-Relational Patterns		Project Deliverable 3 – progress and discussion	Assignment A2
W9	Patterns for Enterprise Application Architecture [Fowler] Presentation Patterns, Concurrency	Assignment A3 – presentation and discussion		Project Deliverable 3: Design Model, Data Model
W10	Design Patterns (Creational - Factory method, prototype, abstract factory, singleton, builder)	Assignment A3 – progress and discussion Design patterns – exercises	Project – presentation and discussion Elaboration – Iteration 2: Package design refinement, Design model refinement (class design principles, more GoF patterns)	
W11	Structural DP (Composite, Decorator, Proxy, Bridge),		Project – presentation and discussion	Assignment A3
W12	Behavioral DP (Strategy, State, Command, Chain of Responsibility)	SOA – exercises		Project Final Presentation: Design and Implementation
W13	Quality Attributes, Basic SD metrics			Project Final Presentation: Design and Implementation
W14	Exam Review			Late Assignments and Projects