UTCN / Computer Science Department
Software Design 2017/2018

LABORATORY SCHEDULE

Week	Course Lecture Topic	Laboratory activities	Project activities	Deliverables
W1	OO Concepts Review	Revision exercises (OOP, UML)	Discuss projects / choose project	
W2	Class design principles (SOLID, 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 pr**esentation and discussion	**Project Deliverable 1** – progress and discussion	
W4	Architectural Patterns (Microkernel, Service-based, Cloud?)	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:** Vision, Use Case Model, Supplementary Specification, Glossary documents
W5	Architectural Patterns (Mobile, Onion?)	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	Patterns for Enterprise Application Architecture [Fowler] Intro, Business Logic (Transaction Script, Domain Model), Concurrency	*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] Presentation Patterns, Design Patterns (Creational - Factory method, prototype, abstract factory, singleton, builder)		**Project Deliverable 3** – progress and discussion	**Assignment A2**
W9	Structural DP (Composite, Decorator, Proxy, Bridge),	**Assignment A3** – presentation and discussion		**Project Deliverable 3:** Design Model, Data Model
W10	Behavioral DP (Strategy, State, Command,	**Assignment A3** – progress and	**Project** – presentation and discussion	

	Chain of Responsibility)	discussion Design patterns – exercises	**Elaboration – Iteration 2:** Package design refinement, Design model refinement (class design principles, more GoF patterns)	
W11	Service Oriented Design (SOAP, REST)		**Project** – presentation and discussion	**Assignment A3**
W12	Quality Attributes, Basic SD metrics	SOA – exercises		**Project Final Presentation:** Design and Implementation
W13	Exam Review			**Project Final Presentation:** Design and Implementation
W14				**Late Assignments and Projects**

- **Laboratory policy**
  - **Laboratory sessions are compulsory – no more than 3 absences are allowed. Absences have to be caught up by the end of the semester.**
  - **Assignments and project deliverables must be presented when established. A delay of max 2 weeks is allowed with a penalty of 1 point/week.**
  - **A single assignment and/or project deliverable can be presented during a laboratory session.**
  - **No migration between groups is allowed**
  - **Only one assignment and/or project deliverable can be submitted in the make-up session**

- **Grading**
  - **Assignment grading: 0.4 * Documentation_grade + 0.6 * Implementation_grade**
  - **Project grading: 0.1 * Deliverable1 + 0.1 * Deliverable2 + 0.1 * Deliverable3 + 0.3 * Final Design + 0.4 * Implementation**