**UTCN / Computer Science Department**

**Software Design 2017/2018**

**LABORATORY SCHEDULE**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Week | **Course --- Lecture Topic** | **Laboratory activities** | **Project activities** | **Lab & Project Deliverables** |
| **W1** | OO Concepts Review | Revision exercises (OOP, UML) | Discuss projects **/** choose project | *lab 01.03* |
| **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  deadline 07.03 20:00 sent on email  *lab 08.03* |
| **W3** | Architectural Patterns (Layers, Client-server, Broker, MVC) | Architectural patterns and styles –  **Assignment A1 pr**esentation and discussion | **Project Deliverable 1** – progress and discussion | *lab 15.03* |
| **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  **Assignment A1 - documentation**  **deadline 21.03 20:00 on github**  *lab 22.03* |
| **W5** | Architectural Patterns (Mobile, Onion?) | Architectural patterns and styles | **Project Deliverable 2** – progress and discussion | **Assignment A1 – final doc + implementation**  **deadline 28.03 20:00 on github**  *lab 29.03* |
| **W6** | Live coding | ORM exercises  **Assignment A2** – presentation and discussion |  | **Project Deliverable 2:** Domain Model, Architectural Design, Component and Deployment diagrams  **deadline 4.04 20:00 on github**  *lab 05.04* |
| **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 | **Assignment A2 - documentation**  **deadline 11.04 20:00 on github**  *lab 12.04* |
| **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 - final doc + implementation**  **deadline 18.04 20:00 on github**  *lab 19.04* |
| **W9** | Structural DP (Composite, Decorator, Proxy, Bridge), | **Assignment A3** – presentation and discussion |  | **Project Deliverable 3:** Design Model, Data Model  **deadline 25.04 20:00 on github**  *lab 26.04* |
| **W10** | Behavioral DP (Strategy, State, Command, Chain of Responsibility) | **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) | **Assignment A2 - final doc + implementation**  **deadline 02.05 20:00 on github**  *lab 03.05* |
| **W11** | Service Oriented Design (SOAP, REST) |  | **Project** – presentation and discussion | *Project implementation – first code review*  *(no grading, just suggestions / change requests)*  *lab 10.05* |
| **W12** | Quality Attributes, Basic SD metrics | SOA – exercises |  | **Project Final Presentation:** Design and Implementation  **deadline 1st full project commit: 16.05 on github**  **(minimum 80% complete (doc + code))**  *lab 17.05* |
| **W13** | Exam Review |  |  | **Project Final Presentation:** Design and Implementation  **deadline 2nd full project commit: 23.05 on github**  *lab 24.05* |
| **W14** |  |  |  | **Late Assignments and Projects**  **deadline for closing situation 30.05 20:00 github FINAL date – no exceptions**  *lab 31.05* |

* **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**
  + **Bonus & Malus points will be given based on activity**

**Attendance & grading available for group 30432 at**

[**https://docs.google.com/spreadsheets/d/1ApGptGUDw5\_2XexFEp67ymz8\_GobG8YynoDnl13CxBc/edit?usp=sharing**](https://docs.google.com/spreadsheets/d/1ApGptGUDw5_2XexFEp67ymz8_GobG8YynoDnl13CxBc/edit?usp=sharing)