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Office: CS 425
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Textbook:

References:
**Course Objective and Learning Goals:**
The students will learn how to analyze, design, and implement software systems using Object-Oriented Technology. Current software development techniques such as Object-Oriented Analysis and Design, Agile Method, Design Patterns, Unified Modeling Languages, and Unified Process will be covered. Labs and homework are assigned as a practical component of the course.

**Prerequisites:**
CPSC 223A, 223J, or 223N; and 241.

**Course Work and Grading Policy:**
This course requires both heavy readings of references and performing well-planned team work. There will be a few labs (no grades, but very helpful for both understanding subjects and completing homework assignments), two homework assignments (team work, each 10 points), a team evaluation (self-evaluation by team members) (10 points), a midterm exam (30 points), and a final exam (30 points). Solving online quiz is required for every week (no grades, but very helpful for exam preparations). Attendance will be checked often. Class/Lab participation is required (10 points for attendance and participation). Course materials (lecture notes, supplement, labs, homework, quiz, discussion board, etc.) are available via the Blackboard online learning system at [http://blackboard.fullerton.edu](http://blackboard.fullerton.edu).

The weight distribution is as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>20% (HW#1, HW#2)</td>
</tr>
<tr>
<td>Performance</td>
<td>10% (Self Team Evaluation)</td>
</tr>
<tr>
<td>Participation</td>
<td>10% (Class/Lab Attendance/Participation + Online Access)</td>
</tr>
<tr>
<td>Midterm</td>
<td>30%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
</tr>
</tbody>
</table>

Grades will be given based on the accumulated score (100% total):

- **90% and above**
  - A- (3.7), A (4.0), A+ (4.0)
- **80% - 89%**
  - B- (2.7), B (3.0), B+ (3.3)
- **70% - 79%**
  - C- (1.7), C (2.0), C+ (2.3)
- **60% - 69%**
  - D- (0.7), D (1.0), D+ (1.3)
- **0% - 59%**
  - F (0.0)

**Makeup Policy:**
There will be no makeup exam except the case of medical emergency, natural disasters (such as earthquake, flooding, fire, etc.), or emergent dispatches by your duty. In an emergent case, to have any makeup, you need to submit a formal proof document from a legal agency (hospital, police, executive officer, etc.) A makeup exam may be in a different format, style or level.

**Drop Deadline:**
Please see the Schedule of Classes for the deadlines to drop the class.
## Course outlines:

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Dates</th>
<th>Contents (Lectures, Labs, HWs, Due Dates)</th>
</tr>
</thead>
</table>
| 1     | Jan 31 | Introduction to the class: Schedule, Lectures, Homework, Exams  
|       |        | Software Tools and Labs (references, supplement, online discussion)  
|       |        | Part 1: Introduction  
|       |        | Ch. 1 Object-Oriented Analysis and Design  
| 2     | Feb 7  | Due: Picking Groups and Planning *  
|       |        | Ch. 2 Iterative, Evolutionary, and Agile Methods  
|       |        | Ch. 3 Case Studies  
| 3     | 14     | Part 2: Inception  
|       |        | Ch. 4 Inception is Not the Requirements Phase  
|       |        | Ch. 5 Evolutionary Requirements  
| 4     | 21     | Due: Team Work Progress Report  
|       |        | Ch. 6 Use Cases  
|       |        | Ch. 7 Other Requirements  
| 5     | 28     | Daylight Saving Time Begins (at 2 am on the 1st Sunday of April)  
|       |        | Mid-Term Exam (April 4, Tuesday, 6pm – 8pm)  
| 6     | Mar 7  | Part 3: Elaboration Iteration 1 – Basics  
|       |        | Ch. 8 Iteration 1 – Basics  
|       |        | Ch. 9 Domain Models  
| 7     | 14     | Ch.10 System Sequence Diagrams  
|       |        | Ch.11 Operation Contracts  
| 8     | 21     | Due: HW#1  
|       |        | Ch.12 Requirements to Design – Iteratively  
|       |        | Ch.13 Logical Architecture and UML Package Diagrams  
| 9     | 28     | Spring Recess  
| 10    | Apr 4  |  
|       |        | Due: HW#2  
|       |        | Due: Self-Evaluation  
|       |        | Final Presentation  
| 11    | 11     | Ch.14 Onto Object Design  
|       |        | Ch.15 UML Interaction Diagrams  
| 12    | 18     | Ch.16 UML Class Diagrams  
|       |        | Ch.17 GRASP: Designing Objects with Responsibilities  
| 13    | 25     | Ch.18 Object Design Examples with GRASP  
|       |        | Ch.19 Designing for Visibility  
| 14    | May 2  | Ch.20 Mapping Designs to Code  
|       |        | Ch.21 Test-Driven Development and Refactoring  
| 15    | 9      | Part 4: Elaboration Iteration 2 – More Patterns  
|       |        | Ch.22 – Ch.26  
|       |        | Part 5: Elaboration Iteration 3 – Intermediate Topics  
|       |        | Ch.27 – Ch.39  
|       |        | Part 6: Special Topics  
|       |        | Ch.40 More on Iterative Development and Agile Project Management  
| 16    | 16     | Final Exam (to be announced)  
| 17    | 23     |  

*Disclaimer:* This syllabus is intended to suggest the outline of the course; it is not absolute.