Course Introduction

CENG 431

Course Objectives

- Explain the principles of Object Oriented concepts:
  - abstraction, abstract data types, encapsulation, inheritance, polymorphism, aggregation
- Analyze and identify the strengths / weaknesses of the Object Oriented paradigm.
- Explain and analyze the key points of Object Oriented analysis and design.

Course Objectives

- Design, implement, and test Object Oriented application.
- Utilize Unified Modeling Language (UML) to express the artifacts of Object Oriented Analysis and Design (class design, class relationships, etc.).
- Perform Object Oriented Analysis & Design on a real-world problems.

Course Objectives

- Explain and Utilize Design Patterns.
- Create an implementation of the resultant Object Oriented design in Java.
- Examine new & contemporary concepts in Object Orientation, such as refactoring.
- Communicate the deliverables of a software development project.

Books

- Xiaoping Jia, Object-Oriented Software Development Using Java, Second Edition.
- Mark Priestly, Practical Object Oriented Design with UML.
- Craig Larman, Applying UML and Patterns, Third Edition.
- Martin Fowler, et al., Refactoring: Improving the Design of Existing Code.

Reference Lecture Notes

- Ron LeMaster, David Leberknight. CSCI 4448: Object-Oriented Programming & Design, Spring 2002, University of Colorado, http://www.SoftwareFederation.com/cs4448.html
- Dan Wu. 0360-322: Object Oriented Analysis and Design, Winter 2009, University of Windsor, http://cs.uwindsor.ca/~danwu/0360-322-winter-2009/0360_322_winter_2009.htm
- Michael Winter. COSC 3P40: Advanced Object-Oriented Programming, Winter 2009, Brock Computer Science, http://www.cosc.brocku.ca/Offerings/3P40/
- Jose M. Garrido. CS 8430: Object-Oriented Software Analysis and Design, Spring 2004, Kennesaw State University, http://science.kennesaw.edu/~jgarrido/cs8430_notes/
- Yoonsik Cheon. CS 3331: Advanced Object-Oriented Programming, Fall 2009, University of Texas at El Paso, http://cs.utep.edu/cheon/cs3331/

Grading

- 2 Quizzes, each %10
- Midterm Exam % 25
- Final Exam % 35
- Homework Assignments
  - Groups of 3-4
  - 5 Homeworks, each %4
- Final rounding
- Catalog grading (check regulation)
- Cheating in homeworks will result in getting 0
- Repetitive cheating will have worse results