UNIVERSITY of NEW HAMPSHIRE
Computer Science

CS 619 Introduction to OO Design and Development
Fall 2013

Instructor:	**Karen Jin**	**Office:**	**Kingsbury W253**
E-mail:	`jin at cs.unh.edu`	Office Hours:	Open door policy or email for appointment
TA:	**Bence Cserna** `csbence at gmail.com`		
Lecture:	M W F 2:10pm – 3pm	Classroom:	Kingsbury N328
Website:	`http://www.cs.unh.edu/~cs619`		

Course Description

Principles of problem analysis and software design applied to the development cycle of a software system (i.e. from system requirements specification to design, implementation, and system test). Design and implementation using object-oriented principles, patterns, and tools. Experience in understanding and debugging software systems. Experience in working in groups.

Prerequisites: CS 515

Evaluation Criteria

- In-class Quizzes (15%)
    - There will be 4-6 in-class quizzes; no makeups for missed quizzes.
- Test (20%)
    - There will be one test held on **Nov 6**. The test is open notes.
    - There will be no makeups for missed test.
- Project 1 (25%)
    - This is an individual project. First project milestone due on **Sept 16**. Final project and report due on **Sept 30**.
- Project 2 (40%)
    - This is a group project of 3-4 members each team.
    - Final deliverables including code and report due on **Nov 30**. Project milestones due days are TBA.
    - In class project presentation on **Dec 2, 4** and **6**.
    - A student's final project mark has a team component (tentatively 70%), which weighs equally for all team members, and the rest is a personal component based on weekly reports and peer assessments to reveal inequities in effort and commitment.

Note: Late project submissions will not be accepted.

Texts and Resources

Textbooks:
- *Applying UML and Patterns: An Introduction to Object-Oriented Analysis and Design and Iterative Development* (3rd Edition) by Craig Larman
- *Head First Design Patterns,* by Freeman & Freeman

Both books are available as online ebooks through UNH library. The class notes are available on the course website. Other resources e.g. Android development will also be posted our course website.

Course Objectives and Tentative Topics

Students enter the course are with background of CS 416 or equivalent and java programming experience, and CS 515 data structures course. In this course, students extend analysis, design, and implementation skills and gain experience working in teams on larger programs. Students will

- Participate in all stages of the software development cycle including requirements elicitation, modeling, software design, implementation, testing and maintenance. Participate in a larger, more complex team project.
- Analyze requirements specifications to identify key features of a system specification. Design and document complex software systems using principles of object-oriented design and use the Unified Modeling Language (UML) to document software designs.
- Learn and implement selected OO design patterns.
- Test system features. Learn techniques for designing code to facilitate testing. learn testing concepts such as boundary condition, branch coverage, and black-box and white-box testing.
- Learn working with IDE and various software developing tools.

Tentative Topics
- Intro to Object-oriented Analysis and Design
- Agile Unified Process
- User Requirements and Use Cases
- Domain Model, Object Design and Code Generation
- Test-driven Development and Refactoring
- GOF design Patterns

Policies

Cooperative efforts among class members for conceptual understanding is expected. However, all individual written work and programs you turn in must be your own (except for any shared program code, as explained in the programming assignments). Submitting work not your own violates the Departmental and University Plagiarism Policy.

The University is committed to providing students with documented disabilities equal access to all university programs and facilities. If you think you have a disability requiring accommodations, you must register with Disability Services for Students (DSS). Contact DSS at (603) 862-2607. If you have received Accommodation Letters for this course from DSS, please provide me with that information privately, in my office, so that we can review those accommodations.