CSCI 234: Introduction to Software Engineering

Syllabus – Spring 2015

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PPHAC 213

Office Hours: MWF 9-10
Thursday 3-5
or by appointment

Course Description

An introduction to professional software development using object-oriented techniques. Topics include the use of object-oriented design as a tool for building correct and maintainable software systems, test-driven development, best-practices in object-oriented design and development informed by component-based engineering, advanced object-oriented language features, and languages for communicating design.

Course Goals

Upon completion of this course, a successful student will be able to:

- Design class hierarchies to meet software-level specification using object-oriented design principles and appropriate use of polymorphism, encapsulation, and inheritance.

- Recognize common design idioms and patterns in existing software and use design patterns to aid in the design of new software.

- Communicate software design using UML.

- Utilize git for collaborative programming.

Required Text

The following text is required:

- *Head First Design Patterns* by Eric Freeman and Elisabeth Robson.

This book is different from traditional textbooks in many ways. Chapters have small exercises scattered throughout rather than all at the end. When reading assignments are given, you are expected to read the text carefully and work through the exercises along the way.

In addition to the required text, supplementary readings will be given periodically during the semester.

Assignments and Tests

Your grade will be calculated based on the following items:

- **Homework** – There will be regular homework assignments throughout the semester. Assignments in this category will generally be due the class session after they are assigned and will consist of some combination of small programming tasks, written exercises, and short answer questions.

- **Reading Responses** – Periodically you will be given extra reading assignments to respond to. Responses do not need to be very long (150-250 words is fine) but they should show that you read the assigned reading and thought about how it connects to the topics from class.

- **Programming Projects** – Various programming projects will be assigned throughout the semester. These projects will be more involved than the homework assignments and you will be given more time to complete them. Some projects will be completed individually and some will be completed in groups.

- **Midterm Exam** – There will be a midterm exam in class. The exam is tentatively scheduled for Friday, March 6. You may only re-schedule a test for college approved absences or a documented illness. In either case you must contact me *before* the beginning of the test.

- **Final Exam** – There will be a cumulative final exam given in class on Wednesday, May 6 at 1:30 p.m.

Grading

Grades will be weighted as follows:

30%	Homework
5%	Reading Responses
35%	Programming Projects
15%	Midterm Exam
15%	Final Exam

I will use the standard 90, 80, 70, 60 grading scale with pluses and minuses. I may relax these standards as necessary but I will not raise them.

Course Policies

- **Late Policy** – Generally I expect assignments to be turned in on time. I understand that this is not always possible, so in most cases I will accept assignments one class session late without penalty. However, if this becomes a pattern it will start to affect your grade. To keep up the pace of the class, assignments will not be accepted after they are one session late unless there are special circumstances.

- **Extensions** – In certain circumstances granting an extension to an assignment's due date is perfectly reasonable. If you feel you need an extension, please contact me about it before the day it is due.

- **Absences** – You are expected to attend each class, but I understand that occasionally there will be exceptional circumstances. If you miss a class or know that you will miss an upcoming class, please contact me as soon as possible to explain the situation. You will still be expected to keep up with assignments and class content.

- **Academic Honesty** – You are encouraged to discuss and work with other students on homework assignments. However, the work you turn in should be your own. Help each other understand the concepts, but produce your own code and writing. See the Moravian College student handbook for more on the school-wide stance on academic honesty.

- **Disabilities** – Students who wish to request accommodations in this class for a disability should contact Ms. Elaine Mara, Assistant Director of Academic & Disability Support, located on the first floor of Monocacy Hall (extension 1401). Accommodations cannot be provided until authorization is received from the Academic & Disability Support office.

Communication

Feel free to talk to me about any issues that may arise. Email is generally the fastest way to get in touch with me if you have a quick question. You are most likely to find me in my office during office hours, but I will be around other times as well so dont be shy about stopping by.

The details of this syllabus are subject to change based on our progress through the material.