CSCI 234: Introduction to Software Engineering

Syllabus – Spring 2016

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PPHAC 213

Office Hours: MW 2:30-4
Tuesday 9-10
or by appointment

Course Description

An introduction to techniques and best-practices used in professional software design and development. Topics include the use of object-oriented design as a tool for building correct and maintainable software systems, test-driven development, advanced object-oriented language features, and understanding and contributing to existing software projects.

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, short answer questions, and reading responses.
- **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 4. 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 PM.
- **Attendance and Quizzes** – At the beginning of each class session I will pose at least one question to the class using plickers. Each class session will be worth one plicker point, plus one point for each question that has a correct answer. This will serve as both an attendance taking mechanism and a way to give small quizzes.

  You will not be able to make up plicker points. If you provide a valid reason why you cannot make it to class I will exclude that day's plicker points from your grade. To have your plicker points excused you must notify me *before* class.

  If you lose your plicker card or forget to bring it to class, you will not earn any plicker points for that day. If your card is lost you can come to my office and I will print you out another one, but I will not bring replacement plicker cards to class for you.

Grading

Grades will be weighted as follows:

30%	Homework
30%	Programming Projects
15%	Midterm Exam
15%	Final Exam
10%	Attendance and Quizzes

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** – If you wish to receive any credit for an assignment that was turned in late, you must contact me about it. Penalties will be decided on a case-by-case basis.
- **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 assignments. However, the work you turn in should be your own. Help each other understand the concepts, but produce your own code and writing. If there is any doubt that what you are turning in might be considered copied work, make note of it. 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 the Academic Support Center, located in the lower level of Monocacy Hall, or by calling 610-861-1401. Accommodations cannot be provided until authorization is received from the Academic Support Center.

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.