This page contains the syllabus for Object-Oriented Analysis, Design, and Programming for Fall 2014. "The course syllabus contains important information regarding course requirements and the grading system utilized. It is the responsibility of the students to read the syllabus and consult the instructor if they have questions." (from UNC 2013-2014 Undergraduate Catalog)

CS 200 006 - Object-Oriented Analysis, Design, and Programming - 3 credits
Fall 2014

Class meeting time and location: Tuesday and Thursday, 12:30pm - 1:45pm in Ross Hall 2261
All class material is accessible through Blackboard.

Instructor: Mehrgan Mostowfi, Ph.D. (mer-gone mos-tow-fee)
School: Mathematical Sciences
Office location: ROSS 2240B
Office hours: Tuesday, Wednesday and Thursday, 10:00am - 11:00am, or email to schedule an appointment.
Email: mehrgan.mostowfi@unco.edu
Homepage: http://www.mathsci.unco.edu/facstaff/mostowfi/

Required textbook: The required textbook is Object-Oriented Programming in C++, 4th Edition, by Robert LaFoe. There will be assigned readings to complement the lectures. These readings will come from handouts and/or material in the textbook.

Catalog course description: Study the software development life cycle; elements of the object model; object-oriented data types and functions; object-oriented enhancements to structured programming; and additional data structures and algorithms.

Course objectives: As a result of successfully completing this course, students will:

1. Understand and be able to use the fundamental concepts of the ANSI C++ language, such as variables, expressions, statements, flow-of-control statements, functions (definitions and calls), friend functions, virtual functions, structures and unions, pointers, references, and the associated operators and syntax, C++ i/o streams, templates and exception, and the STL.
2. Understand the Object-Oriented model and its relationship to and implementation in the C++ programming language.
3. Understand and be able to use classes, objects, object instantiation and deallocation, inheritance, association, aggregation, composition, and dependency, attributes and functions, and their relationship to encapsulation and abstraction, member access and the associated operators and syntax, virtual or abstract classes, and polymorphism.
4. Understand the physical organization of C++ programs including the organization of multi-class programs.
5. Have gained experience solving problems and then expressing the solution to those problems as computer programs.

Prerequisites:

- CS 102 -- Structured Programming
- Basic knowledge of a structured programming language.

Course topics: This course will cover the following topics:

- Week 2 (Sep 1 – 7, 2014): C++ Programming Basics, Loops and Decisions, Relational and Logical Operators, Precedence
- Week 3 (Sep 8 – 14, 2014): Structures, Enumerations
- Week 4 (Sep 15 – 21, 2014): Functions, Passing Arguments to and Returning Values from Functions, Overloaded Functions
- Week 5 (Sep 22 – 28, 2014): Objects and Classes
- Week 6 (Sep 29 – Oct 5, 2014): Objects and Classes
- Week 7 (Oct 6 – 12, 2014): Wrap-up and review for Midterm Exam, Midterm Exam
- Week 8 (Oct 13 – 19, 2014): Arrays and Strings
- Week 9 (Oct 20 – 26, 2014): Operator Overloading
- Week 10 (Oct 27 – Nov 2, 2014): Pointers
- Week 11 (Nov 3 – 9, 2014): Pointers
- Week 12 (Nov 10 – 16, 2014): Virtual Functions
- Week 13 (Nov 17 – 23, 2014): Streams and Files
- Week 14 (Nov 24 – 30, 2014): Advanced Topics
- Week 15 (Dec 1 – 7, 2014): Advanced Topics, Wrap-up
- Week 16 (Dec 8 – 14, 2014): No class, comprehensive final exam

**Grading:** Students will earn a grade based on assignments, quizzes, a mid-term exam, and a comprehensive final exam. The grade breakdown is:

- Assignments: 10% (five assignments, assigned roughly every third week)
- Quizzes: 30% (five quizzes, given roughly every third week)
- Midterm exam: 25% (held in class on Thursday, October 9, 2014)
- Comprehensive final exam: 35% (held in class on Wednesday, December 10, 2014, 10:45am – 1:15pm)

The grading scale is "no worse than" ("+" or "+") grades MAY be given to marginal performance, but do not expect them:

- A = 90% through 100% and above
- B = 80% through 89.99%
- C = 70% through 79.99%
- D = 60% through 69.99%
- F = Less than 59.99%

**Course policies:**

- I expect you to make sure your UNCO email works and check your email regularly. Email will be the main means of communication between you and me. Not having checked your email will not be accepted as an excuse for missing due dates or other important information.

- If you must submit work late you need to talk to me at least one-week before the due date in question. Otherwise, **late work cannot be accepted except in cases of verifiable emergencies.**

- It is highly recommended that you attend class. I may choose to track attendance.

- We will be observing all university policies regarding religious holidays and disability policies. Any student requesting disability accommodation for this class must inform the instructor giving appropriate notice. Students are encouraged to contact Disability Support Services (www.unco.edu/dss) at (970) 351-2289 to certify documentation of disability and to ensure appropriate accommodations are implemented in a timely manner.

- Incomplete ("I") grades will only be given in the case of severe hardship including verifiable medical emergencies or legal troubles. Simply being "overloaded" and unable to complete your work is not grounds for an "I" grade.

- Out of courtesy to other students please make sure that you turn off, or place in silent mode, your cell phone.

**Academic Integrity/Academic Dishonesty:** I expect students to be honest and not cheat on their assignments and exams. The exams must be completed without giving or accepting assistance from other students. Any source code copied from another source must be credited as such. Open source software used must maintain all headers and other information as required by the open source license used. I expect you to know the University's policies on student conduct, academic dishonesty, etc. UNC's policies and recommendations for academic misconduct will be followed. For additional information, please see the Dean of Student's website, Student Handbook link and current catalog.

*Every part of this syllabus is subject to adjustment as the semester progresses. Please contact me as soon as possible if you have particular interest in material that is relevant to the class topic but not covered in enough detail; I will be happy to accommodate reasonable requests for modifications.*

Last update on July 22, 2014