COP 3331, Object Oriented Software Design

COP3331.002S19 Object Oriented Sftware Design

Spring 2019 Course Syllabus

3 Credit Hours, Department of Computer Science and Engineering

Class Meeting Times: Mon, Wed 11:00AM - 12:15PM, CIS 1016

Instructor: Tempestt Neal
Instructor's Office: ENB 310
Office Hours: Tue 9:30AM-11:30AM / Wed 2-4PM
Office Phone: 813-396-9353
Email: tjneal@usf.edu (**Use "COP3331-S" as the email's subject**)

Teaching Assistant: Mohamed Ebraheem
Office: ENB 327
Office Hours: Tue, Thurs 2-4PM
Email: mohamedusama@mail.usf.edu

Teaching Assistant: Lakshmi Angara
Office: ENB 327
Office Hours: Mon, Fri 9:30-11:30AM
Email: angara@mail.usf.edu

1 University Course Description

Design of a computer program using an Object-Oriented programming language. Extension of programming knowledge from a procedural language to an object-oriented language. Analysis of program requirements.

2 Course Prerequisites

CDA 3103 (Computer Organization)
CDA 3514 (Program Design)

3 Course Objectives and Learning Outcomes

At the successful completion of the course, students can expect to:
1. Know the basic computing terminology and the concepts behind object-oriented design.
2. Understand what classes and objects are.
3. Know how to design and implement classes and objects in C++.
4. Know how to analyze, design and write software using the object-oriented language C++.
5. Understand function overloading and parameter passing.

6. Understand the concepts of Abstract Data types, encapsulation, inheritance and polymorphism.
7. Know how to use arrays, vectors and how to use the Standard Template Library.

4   Required Textbook

Mary Delamater and Joel Murach, *Murach's C++ Programming*, 2018, Mike Murach & Associates, Inc. ISBN 978-1-943872-27-5, Available **here**.

5   Grading Policy

There will be three grading categories weighted as follows:

- Exams: 45%

    - Exam 1 (15%, 2/6/19)
    - Exam 2 (15%, 3/6/19)
    - Exam 3 (15%, 4/29/19, 10am-12pm)

- Weekly Labs: 30% (Released every Monday, Due Wednesday the following week)

- Flex Project: 25%

Note:

- If you believe that an error has been made in grading, a request must be submitted to the TA no later than one week after the assignment or exam is returned.

- There are no guarantees for extra credit.

- Late assignments will not be accepted.

- Exam topics may vary depending on how quickly we cover material during class. You will be allowed one sheet (8.5 × 11, one side only) of notes for all exams that must be submitted with the exam.

Letter grades will be assigned according to the following scale:

>= 93.0	A
90.0-92.9	A-
87.0-89.9	B+
83.0-86.9	B
80.0-82.9	B-
77.0-79.9	C+
73.0-76.9	C
70.0-72.9	C-
60.0-69.9	D
< 60.0	F

6 Attendance Policy

Attendance is not required, but we will use in-class time to discuss important topics and practice important concepts that may not be present in the book. Attendance is strongly encouraged.

7 Course Schedule

(Subject to Change)

Week	Textbook Coverage	Topics
1/7	Chapters 1, 2	Introduction, Setting up an IDE
1/14	Chapters 3, 4, 6	Making decisions, Loops, Data types, Dynamic typing
1/21	Chapters 5, 7, 8	I/O streams and files, Functions, and Debugging (**1/21, No class, Martin Luther King, Jr. Holiday**)
1/28	Chapters 9, 10	Structure, enumerations, STL containers and iterators
2/4	Chapter 11, 12, 13	STL algorithms, arrays, C strings, and exceptions, *Exam 1*
2/11	Chapter 14	OOP: Intro to classes, Encapsulation, UML
2/18	Chapter 15	OOP: Inheritance and polymorphism
2/25	Chapter 16	OOP: Static members and functions, overloading
3/4	Handouts	MVC Design Pattern, *Exam 2*
3/11	-	**Spring Break**
3/18	Chapter 17	Pointers and memory
3/25	Chapter 18	Templates
4/1	Handouts	Event-based Programming
4/8	Handouts	Event-based Programming
4/15	Handouts	Functional and Reactive Programming
4/22	-	Flex Project
4/29	-	*Exam 3*

8 Course Policies

8.1 Academic Integrity of Students

Academic integrity is the foundation of the University of South Florida System's commitment to the academic honesty and personal integrity of its university community. Academic integrity is grounded in certain fundamental values, which include honesty, respect, and fairness. Broadly defined, academic honesty is the completion of all academic endeavors and claims of scholarly knowledge as representative of one's own efforts. The final decision on an academic integrity violation and related academic sanction at any USF System institution shall affect and be applied to the academic status of the student throughout the USF System, unless otherwise determined by the independently accredited institution. The process for faculty reporting of academic misconduct,

as well as the student's options for appeal, are outlined in detail in **USF System Regulation 3.027**.

8.2 Disruption to Academic Process

Disruptive students in the academic setting hinder the educational process. Disruption of the academic process is defined as the act, words, or general conduct of a student in a classroom or other academic environment which in the reasonable estimation of the instructor: (a) directs attention away from the academic matters at hand, such as noisy distractions, persistent, disrespectful or abusive interruption of lecture, exam, academic discussion, or general University operations, or (b) presents a danger to the health, safety, or wellbeing of self or other persons.

8.3 Student Academic Grievance Procedures

The purpose of these procedures is to provide all undergraduate and graduate students taking courses within the University of South Florida System an opportunity for objective review of facts and events pertinent to the cause of the academic grievance. An "academic grievance" is a claim that a specific academic decision or action that affects that student's academic record or status has violated published policies and procedures, or has been applied to the grievant in a manner different from that used for other students

8.4 Disability Access

Students with disabilities are responsible for registering with Students with Disabilities Services (SDS) (SVC 1133) in order to receive academic accommodations. SDS encourages students to notify instructors of accommodation needs at least five (5) business days prior to needing the accommodation. A letter from SDS must accompany this request.

8.5 Sexual Misconduct/Sexual Harassment Reporting

USF is committed to providing an environment free from sex discrimination, including sexual harassment and sexual violence (**USF System Policy 0-004**). The USF Center for Victim is a confidential resource where you can talk about incidents of sexual harassment and gender-based crimes including sexual assault, stalking, and domestic/relationship violence. This confidential resource can help you without having to report your situation to either the **Office of Student Rights and Responsibilities** (OSSR) or the **Office of Diversity, Inclusion, and Equal Opportunity** (DIEO), unless you request that they make a report. Please be aware that in compliance with Title IX and under the USF System Policy, educators must report incidents of sexual harassment and gender-based crimes including sexual assault, stalking, and domestic/relationship violence. If you disclose any of these situations in class, in papers, or to me personally, I am required to report it to OSSR or DIEO for investigation. Contact the **USF Center for Victim Advocacy and Violence Prevention**: (813) 9745757.

8.6 Religious Observances

All students have a right to expect that the University will reasonably accommodate their religious observances, practices and beliefs (**USF System Policy 10-045**). The USF System, through its

faculty, will make every attempt to schedule required classes and examinations in view of customarily observed religious holidays of those religious groups or communities comprising the USF System's constituency. Students are expected to attend classes and take examinations as determined by the USF System. No student shall be compelled to attend class or sit for an examination at a day or time prohibited by his or her religious belief. However, students should review the course requirements and meeting days and times to avoid foreseeable conflicts, as excessive absences in a given term may prevent a student from completing the academic requirements of a specific course. Students are expected to notify their instructors at the beginning of each academic term if they intend to be absent for a class or announced examination, in accordance with this Policy.

8.7 End of Semester Student Evaluations

All classes at USF make use of an online system for students to provide feedback to the University regarding the course. These surveys will be made available at the end of the semester, and the University will notify you by email when the response window opens. Your participation is highly encouraged and valued.

8.8 Statement of Academic Continuity

In the event of an emergency, it may be necessary for USF to suspend normal operations. During this time, USF may opt to continue delivery of instruction through methods that include, but are not limited to: Learning Management System, online conferencing, email messaging, and/or an alternate schedule. It is the responsibility of the student to monitor the Learning Management System for each class for course-specific communication, and the main USF, College, and Department websites, emails, and MoBull messages for important general information (**USF System Policy 6-010**). For additional guidance on emergency protective actions and hazards that affect the University, please visit **www.usf.edu/em**.