

UNIVERSITY OF LA VERNE
Information Technology Program
CMPS 367 – Object Oriented Language C++
Course Syllabus – Spring 2018

INSTRUCTOR

Dr. Ahmad Abu Shanab
Office: FH-108-A Office Phone: 909-448-1487
E-mail: aabushanab@laverne.edu
Hours: MW: 3:00 PM - 5:30 PM and by appointment

COURSE

CMPS 367 – Object Oriented Language C++, 4.000 Credit Hours
Lecture and Lab : Online (BlackBoard and Mindtap)
Prerequisite: Completion of CMPS-301 or an equivalent course

COURSE DESCRIPTION AND OVERVIEW

This course will review basic C++ concepts, operators, functions overloading, classes and class inheritance, virtual functions, and file structures. Lab included.

This is the 2nd part of the C++ programming course. We will review CMPS-301 in detail for 2 weeks and then cover new topics such as: Array of structures, overloaded functions, template functions, recursion, and Object Oriented Programming. Students will learn the basic principles and learn the characteristics of Object-Oriented Programming.

This course is 10 weeks long and is conducted completely online. The course will start on 03/26/2018 and end on 06/03/2018. Course discussions and assessments will be conducted asynchronously. Three individual projects and two group projects will be required, see the course schedule for the due dates and plan accordingly

You will access the course materials through the course site on blackboard (<https://bb.laverne.edu/>). Course related announcements will be posted regularly in the Announcements area on the course's homepage. Course materials and activities can be found in the Weekly Modules (on the course menu) grouped into modules and organized chronologically as you will need them. You should log in and access the course site regularly (at least every other day, if not daily) to check for course announcements. A detailed schedule of course activities and due dates is posted in a printable format and can be found in Course Resources. I also post all due dates in the Calendar tool in the course site.

LEARNING OBJECTIVES

- Acquire leadership skills and collaborate in team projects
- Obtain a sense of “urgency” to meet deadlines
- Be flexible to function in a variety of work environments
- Demonstrate skills in analyzing problems before and during a project
- Be prepared to get jobs in industry related to concentration areas such as Computer Engineering, Computer Programming, and Web Computing

LEARNING OUTCOMES

- Describe the concept of an object
- Describe and use inheritance.
- Describe and use overloaded functions.
- Design object oriented solutions for small systems involving multiple objects.
- Test and debug a software program professionally.
- Explain the processes of Software Engineering.

TEXT

Malik - Bundle: C++ Programming: Program Design Including Data Structures, 8th + LMS Integrated for MindTap Computer Programming, 1 term (6 months) Printed Access Card | 9781337760515

Requirements (Windows): Visual Studio Enterprise 2015 or higher

Requirements (Mac): Visual Studio for Mac

(download free <https://image.microsoft.com/en-us/custom/Dreamspark>).

COURSE OUTLINE

- Module 1: Review basic C++ concepts
- Module 2: Review basic C++ concepts (continued)
- Module 3: Classes and Data Abstraction
- Module 4: Inheritance and Composition
- Module 5: Pointers, Classes, Virtual Functions, Abstract Classes, and Lists
- Module 6: Overloading and Templates
- Module 7: Exception Handling
- Module 8: Software Engineering, Testing and Debugging
- Module 9: Recursion
- Module 10: Advanced Topics

GRADING

	<u>Weight</u>
Unit Tests	10%
Programming Exercises	10%
Individual Projects (3 Projects of equal weight)	15%
Group Project 1	10%
Group Project 2	15%
Discussions	20%
Online Final Exam	20%

Grading Scale

A	93-100%
A-	90-92%
B+	87-89%
B	84-86%
B-	80-83%
C+	77-79%
C	74-76%
C-	70-73%
D+	67-69%
D	60-66%
F	Below 60%

The Online Final Exam and All Unit Tests are closed book and closed notes. The Online Final Exam is conducted with **Respondus LockDown Browser**.

Unit Tests

You will take 10 Unit Tests over the duration of the course and will be allowed one attempt per test. To provide you the opportunity to practice mastery of the terminology and skills you have the option to take practice quizzes (i.e. Unit Exercise), where multiple attempts are allowed. These practice quizzes are open during a 7-day window (see the Course Schedule for dates) that starts at the beginning of the week of the completed by their corresponding due dates. While you can have your text and notes available as a resource (only during practice quizzes), I expect that you will have read and studied prior to attempting each quiz.

Programming Exercises

You will complete up to 10 programming exercises within each module (except Week 1 module) over the duration of the course. Each exercise can be checked if the lab tests are passing using the Test button. Multiple attempts will be allowed for each exercise to allow for practice learning. Once you are satisfied with the results, use the Grade button to save your score.

Discussions

You will participate in 10 discussions over the duration of the course. The discussions will be asynchronous, meaning we do not have to be online all at the same time. However, there will be strict start and end dates for each discussion to keep us on track. You will be required to make at least three posts per discussion, but are encouraged to post more as each discussion matures. Your first response to the assigned discussion prompt will be due by Thursday at 11:59pm during the assigned week. Your first follow up post to your classmates' postings will be due by Saturday at 11:59pm, and the second follow-up post will be due by 11:59pm Sunday of the same week. Specific due dates are listed in the course schedule. Your discussion participation will be evaluated using the **Discussion Rubric** posted in the Course Resources.

Projects

You will complete three programming projects individually and two programming projects with a team (five total). You are encouraged to submit a draft of your work to me to receive feedback prior to your final submission. Make sure you submit at least two days before the due date to allow me sufficient time for review, and time for you to revise if necessary. Assignment details and evaluation criteria for each project are located within the module in which you will complete it. Due dates for each project are listed in the course schedule.

Online Final Exam

This exam is a comprehensive multiple-choice exam assessing your mastery of the terminology and skills you achieved in this course. Due date is listed in the course schedule.

COURSE POLICIES

Academic Honesty

Each student is responsible for performing academic tasks in ways that honesty is not in question. Unless an instructor specifically defines what is permissible in academic conduct, students are otherwise expected to maintain academic integrity in all tests, term papers, oral and written examinations, recitations, and all other academic work that is presented by a student as his/her own work. Students are expected to follow proper citations when using sources that are not their own on all academic work. Persons who deliberately provide materials to students for purposes of plagiarism are also culpable.

When academic honesty is in question, faculty members may take appropriate disciplinary action that include, but not limited to rewriting a paper or retaking an exam, giving a student a letter grade of F on the assignment, or F on the course, and/or recommending expulsion. If the actions include a fail grade and/or expulsion, this recommendation must be reported to the Department Chair and/or Academic Dean.

The Provost may review cases of academic dishonesty if the student denies the allegations, and/or the faculty member has reason to suspect academic dishonesty (even after the student has submitted a revised work or additional information). Due process may include the formation of an Academic Judicial Board to investigate the matter and make a recommendation to the Provost. The Provost may take appropriate action that may include, but is not limited to academic probation, suspension, or expulsion.

Course Communications

Students should access school email (i.e. @laverne.edu) and the course site on blackboard (<https://bb.laverne.edu/>) on a regular basis (at least every other day, if not daily) for class related updates and announcements. Course related questions should be asked on the general Q&A forum on the course site on blackboard. Questions of a more personal nature (i.e. questions regarding your grade) can be asked via email.

Student Email Criteria

Email is regarded as a professional means of communication. Proper sentence structure, capitalization, correct spelling, and punctuation are expected. Additionally, proper netiquette is expected in all online communications.

Because I teach multiple courses at the same time, it is helpful for me if you include identifying information in any email you send to me by including the following in the in each subject line:

1. The course number
2. The subject
3. Your first and last name
(e.g. CMPS301_Project1Grade_Ahmad_AbuShanab)

Instructor Response Time

Generally, I check email frequently Mon-Fri; students can expect a reply within 24 hours on weekdays and within 48 hours on weekends or official holidays; although, in most cases, I will answer you even before. If I plan to be out of town without Internet access, I will post a note in the course site Announcements area. I will be available online during the weekends, although not necessarily all day. If I will not be available for some reason during the weekend, I will let you know ahead of time. Generally, feedback on assignments will be provided to you within 5 days of submission. I will update the online gradebook on a weekly basis.

I will host Office Hours on a regular schedule (listed at beginning of Syllabus). Please take advantage of these opportunities to ask me questions directly.

Professional Conduct/Netiquette

In this course we will be communicating online with each other on a regular basis. Because written communications are “heard” differently than verbal, please be sure to follow commonly accepted rules of netiquette. It is important that all participants in online courses be aware of proper online behavior and respect for each other.

<https://www.youtube.com/watch?v=DwdqQjCfWSc>

Use appropriate language for an educational environment:

- Do not use obscene or threatening language.
- Avoid slang and uncommon abbreviations.
- Use proper spelling and grammar.
- Avoid overuse of ALL CAPS.
- Use complete sentences.

Late Work

All due dates for the entire course are stated in the course schedule. Plan accordingly. I expect assignments to be completed by their corresponding due dates. Penalties for late work include:

- **Unit Tests:** Because you have a 7-day window to complete each test, no make-up tests will be granted except in the case of extenuating circumstances.
- **Discussions:** We will make use of the discussion board in this class. For true discussion to occur, discussion posts must be posted during a common period (which is indicated on the Course Schedule). Due to the nature of a “discussion” late posts will **not** be given credit.
- **Projects:** A 10% reduction in the assignment grade will be applied for each day it is late (e.g. 1 day late = 10%, 2 days late = 20%, etc.).

I realize that life is fluid and situations can arise that are outside of your control. Should you run into a true emergency and anticipate falling behind in the course, contact me immediately and we will discuss options.

ACCESSIBILITY AND ACCOMMODATIONS

The University of La Verne is committed to providing support for all students with disabilities, whether the educational process takes place on the main campus, or at one of our regional campuses. For information pertaining to your specific campus please contact the Dean or Director of Disabled Student Services. Please refer to the [Disabled Student Services Handbook](#) for additional information.

Please inform the professor about any disability or special need you have that may require specific arrangements. According to the State of California Policy, students with disabilities need to document their disabilities with Disabled Student Services.

CLASS SCHEDULE

Week Modules	Topics	Chapters
WEEK 1 Mar 26 - Apr 1	Review basic C++ concepts	2,3,4,5
WEEK 2 Apr 2 - Apr 8	Review basic C++ concepts (continued)	6,7,8,9
WEEK 3 Apr 9 - Apr 15	Classes and Data Abstraction	10
WEEK 4 Apr 16 - Apr 22	Inheritance and Composition	11
WEEK 5 Apr 23 - Apr 29	Pointers, Classes, Virtual Functions, Abstract Classes, and Lists	12
WEEK 6 Apr 30 - May 6	Overloading and Templates	13
WEEK 7 May 7 - May 13	Exception Handling	14
WEEK 8 May 14 - May 20	Software Engineering, Testing and Debugging	Material will be available on BlackBoard
WEEK 9 May 21 - May 27	Recursion	15
WEEK 10 May 28 - Jul 3	Advanced topics (linked lists, stacks, queues, and binary trees)	Sections from 16, 17, 19

