

## **I** *Instructor Information*

Instructor Name: **Professor James Papademas**  
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Office Telephone: ( 773 ) 775 - 1087 ( 9:00 a.m. until 10:00 p.m. )  
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Office Hours: Thursdays 10:00 p.m. - 10:30 p.m.  
Office Room: Room 2171 DP

## **II** *General Course Information*

Meeting Time and Place: meeting time(s): \_\_\_\_\_ place: room(s) \_\_\_\_\_  
Credit Hours: 3 Credit Hours Lecture / 1 Credit Hour(s) Lab  
Course Description: A first course in computer programming from the basic through the intermediate levels. Students will design, implement and debug maintainable C++ programs demonstrating applications from the business and computer sciences. Abstract data types and object oriented methods will enhance the study of elementary data structures.  
Course Prerequisite(s): MAT 125 or any higher numbered mathematics course.  
Prerequisite Knowledge: Essential skills of computer programming.

## **III** *Required Instructional Materials*

Course Textbook(s): C++ Programming: From Problem Analysis To Program Design, 4th Edition D.S. Malik, Course Technology, 2008. ( ISBN: 1 - 4239 - 0209 - 2 ).  
Companion Web site: <http://www.course.com>  
Supplemental Materials: Includes handouts and special project information.  
Lecture / Lab Notebook: You are required to purchase a bound notebook with dividers that will be used to bind your completed homework / lab assignments.  
Other Items: Computer thumb drive, folders, pens, pencils, mini - stapler are required.  
Hand - Held Calculator: A hand - held scientific or graphing calculator is required along with the instructional manual of the calculator.

## **IV** *Course Objectives*

Key Objectives: The basic learning objectives are:  
A. Create programs using the essential tools within the C++ language.  
B. Use functions and modularity to create solutions to complex programming problems.  
C. Solve problems using existing and constructed elementary data structures.  
D. Design software demonstrating the proper use of encapsulation and data abstraction.  
E. Incorporate class objects as a tool in designing maintainable software.

## **V** *Outline of Course Topics*

Topics of Discussion:  
(a) Introduction to programming topics and tools; (b) Generate C++ language programs given a set of programming requirements; (c) Code programs in a well - structured fashion; (d) Write, debug, and modify programs; (e) Use the knowledge of the various loop constructions to evaluate their performance in a given application. (f) Describe the output for a given program; (g) Describe the purpose for a given function; (h) Learn common programming errors; (i) Basics of reading/writing programs from/to a disk. (j) Basics of header file creation.

**VI *Methods of Evaluating Student Progress***

Grading Scale: Grading will use the scale: 100 % to 90 % is an A ( Superior ), 89 % to 80 % is a B ( Good ), 79 % to 70 % is a C ( Fair ), 69 % to 60 % is a D ( Poor ) and 59 % to 0 % is an F ( Failing ).

Grade Determination: Your final course grade is based on the following: Homework 15 % , Quizzes 10 % , Unit Exams 25 % , Lab Projects 30 % , Final Exam 20 % .

Grade Breakdown: Homework Assignments are issued on a weekly basis. Quizzes usually are announced in advance, however, " pop " quizzes may be given. There are no make - ups for any missed quizzes. In - Class Exams are typically closed book and closed notes. There are no individual make - ups for any of the in - class exams. In - Class Exercise Sets are usually completed during part of the lecture session. These Exercise Sets are usually not submitted for grading but are important to complete. Lab Projects are to be unique, original and submitted in a professionally prepared presentation binder. The Final Exam is cumulative and closed book.

**VII *Methods of Instruction***

Instruction Techniques: The methods used to instruct the course material may include: (1) Lecture - oral presentation, (2) Class discussion, (3) Individual and group projects and (4) Discovery or the Socratic method of asking questions.

**VIII *Course Practices Required***

Student Practices: Students enrolled in this class should (1) attend class regularly, (2) complete assignments on time and (3) demonstrate assigned problems.

**IX *Academic Integrity***

Integrity Policy: The very nature of higher education requires that students adhere to accepted standards of academic integrity. Therefore, Oakton Community College has adopted a code of Academic Integrity. These may be found in the student Handbook. You may also find a summary of the code of Academic Conduct in the college Catalog. Among the violations of academic integrity listed and defined are: cheating, plagiarism, falsification and fabrication, abuse of academic materials, complicity in academic dishonesty, falsification of records and official documents, personal misrepresentation and proxy, and bribes, favors, and threats. It is the student's responsibility to be aware of behaviors that constitute academic dishonesty. Pursuant to the due process guarantees contained in the policy and procedures on Student Academic Integrity, the minimum punishment for the first offense for a student found in violation of the standards of academic integrity is failure in the assignment. In addition, a disciplinary record will be established and kept on file in the office of the Vice President for student Affairs for a period of 3 years.

**X *Other Course Information***

Additional Items of Note: (a) You are responsible for any classes that you miss. Have telephone numbers of others in the class; get assignments, notes, deadlines etc. from them. (b) Changes to this syllabus may be made when deemed appropriate and without notice. (c) Tutors are available by appointment in room A135 .

If you have a documented learning, psychological, or physical disability you may be entitled to reasonable academic accommodations or services. To request accommodations or services, contact the ASSIST office in the Instructional Support Services. All students are expected to fulfill essential course requirements. The College will not waive any essential skill or requirement of a course or degree program.

**XI *Academic Etiquette***

Classroom Behavior: Some guidelines are: (1) come to class prepared, (2) be courteous, and treat one another and your professor with respect, (3) pay careful attention to the lecture and (4) follow any instructions promptly.

**XII *Attendance Policy***

Attendance Policy: The college's attendance policy will be followed.

**Tentative Weekly Outline of Course Topics**

<b>Week</b>	<b>Chapter(S)</b>	<b>Key Topics</b>
1	1	An Overview of Computers and Programming Languages
2	2	Basic Elements of C++
3	3	Input / Output
4	4	Control Structures I ( Selection )
5	5	Control Structures II ( Repetition )
6	6	User - Defined Functions I
7	7	User - Defined Functions II
8	8	User - Defined Simple Data Types, Namespaces and the String Type
9	9	Arrays and Strings
10	10	Applications of Arrays ( Searching and Sorting ) and the Vector Type
11	11	Records ( Structs )
12	12	Class and Data Abstraction
13	13	Inheritance and Composition
14	14	Pointers, Classes, Virtual Functions and Abstract Classes
15	All	Final Exam / Final Lab Project(s)