

**Instructor:** Steven Millet  
**Autumn Term 2016**  
August 15<sup>th</sup> – October 15<sup>th</sup>

**Email:** steven.millet@doane.edu  
Wednesdays, 6:00 – 10:30 PM

A continuation of Information Systems Management 101, this course provides, through the development of larger software applications, an understanding of the process of developing software, including the identification of a problem, and the design, analysis and implementation of algorithms, and data/file structures to solve that problem. Students learn how to implement algorithms and data/file structures in a high-level language, and how to test and verify that implementation. ***Prerequisite: Information Systems Management 101 or competence and Mathematics 115.*** (3 Credits)

**Learning Goals and Objectives:** At the end of this course, the student should

1. Understand the phases involved in the Software Development Life Cycle (SWDLC).
2. Understand basic data structures including arrays and structures in C++.
3. Be familiar with the Object-Oriented Programming features of C++ (i.e. classes).
4. Learn the advantage of using advanced data structures such as linked-lists, stacks and queues.
5. Be familiar with advanced algorithms for searching and sorting data sets. Including the ability to develop customized function libraries for sorting and report generation
6. Be familiar with ISO C++ software development standards versus Win XP software development options, and also have a basic understanding of C# and be able to track and repair development bugs through informal software testing.

**Required Course Texts:**

C++ a Beginners Guide, 2<sup>nd</sup> Ed., by Herb Schildt, McGraw-Hill, 2004 , **ISBN-13:** 978-0072232158.

<u>Week</u>	<u>General Topics To Be Covered</u>
1	Course Overview Review of ANSI/ISO C++
2	Using Structures and Arrays in C++
3	Object-Oriented Programming
4	String Functions and Using a String Class <b>MIDTERM EXAM</b> Midterm Lab Exam – Take Home
5	Arrays, Templates and Vectors Multi-Dimensional Arrays and Matrices
6	Introduction to Linked-Lists Introduction to C# (handouts provided by instructor)
7	Sorting Testing Your Application
8	<b>FINAL EXAM</b> – Final Lab Exam

#### **Methods for Assessment of Student Performance:**

The student's final grade will be determined as follows:

35%	Course assignments and activities
25%	Exams (2 scheduled)
15%	Quizzes (2 scheduled)
15%	Lab Exams
10%	Attendance and Participation

The following Grading Scale will be used:

100 – 97	A+
96 – 94	A
93 – 90	A-
89 – 87	B+
86 – 84	B
83 – 80	B-
79 – 77	C+
76 – 74	C
73 – 70	C-
69 – 67	D+
66 – 64	D
63 – 60	D-
Below 60	F

**Classroom Procedure:**

The first 2 ½ to 3 hours of class will always be devoted to lecture. The remaining class time may be reserved for students to work on course assignments. Students are encouraged to make optimum use of this time, as your instructor will be readily available to answer any questions you might have. The only exceptions to this schedule may be on exam or quiz nights. Only students with excused absences will be allowed to take make-up exams and quizzes. Make-ups should be taken no later than one week after the exam (or quiz) date.

**Academic Integrity:**

The Doane Academic Integrity Policy will be adhered to in this class. All assignments and exams/quizzes will represent your own work. Any use of others' ideas and words without proper citation of sources is plagiarism and could result in the loss of all points for that particular assignment or exam.

**Use of Personal Technology During Class:**

Please restrict your use of cell phones to outside of class time. The use of PDAs, Laptop Computers and any personal audio/visual devices are generally prohibited during class time unless approved by your instructor.

**Students with Disabilities/Reasonable Accommodations:**

Doane seeks to maintain a supportive academic environment for students with disabilities. To ensure your equal access to all educational programs, activities and services, federal law requires students with disabilities notify the college, provide documentation, and request reasonable accommodations. If you need accommodations in this course, please notify your instructor immediately so that the required documentation is filed, and that your accommodation plan is in place.

**Note:** The schedule outlined in this syllabus is tentative. All efforts will be made to adhere to it as closely as possible. However, your instructor reserves the right to make any changes to the schedule as needed.