

## ISM 101

## Software Development I

**Instructor:** Steven Millet

**Spring Term 2017**

March 13<sup>th</sup> – May 13<sup>th</sup>

**Email:** steven.millet@doane.edu

**Course Time:** Mondays, 6:00 – 10:30 PM

This course provides, through the development of small 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. *Intended for ISM majors.* (3 Credits)

### Learning Goals and Objectives:

At the end of this course, the student should the following learning outcomes:

1. Understand the software development life cycle.
2. Have a general understanding of software design and charting techniques.
3. Understand how to implement algorithms, as part of the problem solving process.
4. Be familiar with the Visual C++ integrated development environment (Visual Studio.net).
5. Be familiar with the concepts of both sequential and random file access methods.
6. Be able to outline the proper testing procedures that should be followed to assure the accuracy of newly developed software.

### Required Course Text:

C++ A Beginners Guide, 2<sup>nd</sup> ed. By Herb Schildt, McGraw-Hill, 2003, **ISBN-13:** 978-0072232158.

<u>Week</u>	<u>General Topics To Be Covered</u>
1	Course Overview The Software Development Life-Cycle (SWDLC) Entering, Compiling and Running a Program
2	Introduction to Computers How Computers Are Programmed ISO C++ Standard Variables and Constants Math Operations
3	Strings and Screen I/O Decision Making in Programs
4	<b>MIDTERM EXAM</b> <b>LAB EXAM #1</b>
5	Loops
6	Functions Pointers, enum and Structures
7	Data File Basics Added Features of C++ Introduction to Software Development for Windows XP
8	Review <b>FINAL EXAM</b> <b>LAB EXAM #2</b>

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

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

35%	Weekly homework assignments
25%	Exams (2 scheduled)
15%	Quizzes (2 scheduled)
15%	Lab Exams (2 scheduled)
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

### **Description of Learning Strategies Used to Accomplish the Objectives:**

The first 1 ½ to 2 hours of class will always be devoted to lecture on each week's listed topics. The remaining class time is 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 or 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.