**MTH 125**

**Programming**

# Fall 2018

MWF 12:40 a.m. – 1:40 p.m.

Instructor: Dr. Irma Ravkic

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Office Hours: TBA

Tues/Thurs: by appointment

Course Description:

This class is a continuation of CIS 2 and will cover intermediate level programming methods including vector and array manipulations, classes, functions, and subroutines. Applications in science, mathematics, and numerical analysis will be covered. Prerequisite: CIS 2 and MTH 5A or concurrent enrollment in MTH 5A or consent of the instructor.

Course Objectives:

1. Students will become familiar with using arrays and vectors to collect values.
2. Students will learn about common algorithms for processing arrays and vectors.
3. Students will write functions that receive and return arrays and vectors.
4. Students will be able to use two-dimensional arrays.
5. Students will be able to declare, initialize, and use pointers.
6. Students will understand the relationship between arrays and pointers.
7. Students will be able to convert between string objects and character pointers.
8. Students will become familiar with dynamic memory allocation and deallocation.
9. Students will be able to read input from files and write output to files.
10. Students will be able to convert between strings and numbers using string streams.
11. Students will be able to process command line arguments.
12. Students will understand the concepts of sequential and random access.

Required Textbook:

*C++ for Everyone* 2nd Edition by Cay Horstmann. 2011. John Wiley & Sons, Incorporated. ISBN: 9780470920923

Grading: Grades will be calculated by dividing the points you have earned by the total points possible and will be based on the following required elements:

1. Chapter Quizzes – at the end of chapters 6, 7, and 8 we will have a quiz on the information learned in that chapter. Quizzes are worth 15 points each for a total of 45 points.
2. Homework Assignments - homework problems (review exercises and/or programming exercises) will be assigned as review of previously learned chapters and at the end of each new chapter. The point values for each homework assignment will vary. Your lowest homework grade will be dropped at the end of the semester. You also have the chance to redo your homework assignments if you are not happy with the grade you receive, but this is only if you turn the homework in on time to begin with.

Grade Scale: 93% - 100% A 83% - 86% B 73% - 76% C

90% - 92% A- 80% - 82% B- 70% - 72% C-

87% - 89% B+ 77% - 79% C+ 60% - 69% D

Below 60% F

Important Policies:

**Student Credit Hour Policy –** Acredit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that reasonably approximates not less than:

1. One hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester, or the equivalent amount of work over a different amount of time; or
2. At least an equivalent amount of work as required in paragraph (1) for other academic activities, including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours.

**Attendance –** Because the course material builds on earlier material, your daily prepared attendance is critically important if you want to pass this class. I expect you to be in class on time, be attentive, and not leave early. I consider that behavior to be disrespectful to me and to the other students. It should go without saying that if you miss a class, no matter what the reason; you are responsible for the material missed and the homework assigned on that day.

**Late Work –** Homework sets may be turned in after the due date; however, two points will be deducted for each class day your homework is late. Exams and quizzes may be made up, but only for reasons which I deem valid.

**Academic Honesty** **--** Honesty is expected and dishonesty is taken seriously by me, by the Physical Sciences & Mathematics department, and by the college. Cheating, copying (that includes homework!), and modifying others work will not be tolerated. If you are feeling the urge to cheat on an exam or an assignment, this should signal to you that there is a problem with your preparation for the course. Violations (which include helping a classmate to cheat) will result in severe penalties, so please be scrupulously honest! During exams you may not leave the classroom until you are finished with your exam (i.e. use the restroom before the exam begins). If you have any questions regarding academic honesty, please see me.

**Academic Freedom – S**tudents’ and faculty’s freedom of speech is constitutionally protected, so they are free to take reasoned exception to the data or views offered in any course of study and to reserve judgment about matters of opinion – and allow the same freedom to others. See the Student Handbook for a fuller discussion.

**Learning Disabilities --** MSMC, in compliance with state and federal laws and regulations, does not discriminate on the basis of disability. If you are a student with a documented disability, please see Michele Lewis, Director of Learning Assistance Programs, to make arrangements for classroom accommodations. Her office is located in room 207 of the Humanities Building. Additional disability related information and policies can be found in the Student Handbook.