UMBC

* AN HONORS UNIVERSITY IN MARYLAND

CMSC 202 – Spring 2017
Syllabus

Section 1: Course Information

Course Number	CMSC 202
Course Name	Computer Science II for Majors
Locations	Dependent on Course Section
Term	Spring 2017
Instructors	Jeremy Dixon, James Kukla, and Omar Shehab
Contact Information	See Blackboard
Office Hours	See Blackboard (and by appointment)
Textbooks (required)	Absolute C++ by Walter Savitch, (Sixth Edition)

Section 2: Course Overview

This course continues the student's development of programming and problem-solving skills by providing an introduction to object-oriented design and programming (OOP). The primary focus is on OOP principles and techniques, including encapsulation, aggregation, inheritance, and polymorphism. Other OOP topics such as exception handling and templates are also covered. This is the second course for students interested in pursuing further study in computer science.

Programming projects for this course will use the C++ programming language, GL, and the Emacs programming environment.

Prerequisites: CMSC 202 (with a "B" or better) and MATH 151 (with a "C" or better)

Section 3: Course Objectives

The objectives of this course are to:

- Improve problem solving abilities
- Improve program design skills
- Improve coding skills
- Understand the fundamental programming concepts of abstract data types
- Understand the fundamentals of the object-oriented programming paradigm
- Improve ability to test and debug programs

Section 4: Grading Criteria

Type	Quantity	Points Per	Subtotal
Signed Course Policy	1	10	10
Final Survey	1	10	10
Projects	5	80	400
Labs*	12	10	100
Exams	2	150	300
Comprehensive Final	1	180	180
Total			**1000**

* For Labs, the 10 highest scores are used in calculating the final grade.

Grading Scale:

900 - 1000	A	
800 - 899	B	Required for CMSC
700 - 799	C	Required for CMPE
600 - 699	D	
< 600	F	

Section 6: Project Grading

Projects will be graded according to the following **general** criteria. Detailed rubrics will be made available for each project.

Criteria	Weight	Description
Program Build	10%	Program compiles; Makefile functions correctly
Basic Tests	15%	Program passes basic functional tests
Intermediate Tests	15%	Program passes intermediate functional tests
Advanced Tests	15%	Program passes advanced functional tests
Program Design	35%	Good use of object-oriented design principles
Coding Standards*	10%	Adherence to coding and documentation standards

* The coding standards can be found on the CMSC 202 website and on Blackboard.

Section 7: Course Policies

Course Preparedness: You are responsible for all material covered in the lecture and in the textbook, even if it is not in the course web pages. You are responsible for the material in the course web pages, even if it is not covered during lecture.

Late Policy: A project submission is "late" if any of the submitted files are time-stamped after the due date and time.

Projects will be accepted up to 48 hours late, with the following penalties:

Hours Late	Deduction
Up to 24	15 points
24 to 48	40 points
More than 48	Score of 0

Section 6: Attendance

You are expected to attend all lectures and your weekly discussion session. Although attendance is not a direct component of your grade, students who attend class generally perform more highly than their non-attending peers. The lab assignments are to be done during your weekly discussion session, so attendance is mandatory.

All Discussion Sections meet in the Engineering Building. You MUST attend the discussion section you are registered for in order to receive credit for the labs.

Section 7: Communication

All communication with your professor should be through your UMBC email as per the dictation of the Family Educational Rights and Privacy Act (FERPA). Email subject lines must contain the course name, your section number and a meaningful title. (For example, “CMSC 202, Sec 3, HW4 Question” is a good subject line. However, “202 Question” is not.) Course staff may not respond to emails without proper subject lines.

Information about assignments, exams, and course material will be posted regularly on Blackboard and on the website. It is your responsibility to keep track of deadlines and assignments. Due dates are included in this document for your use.

Section 8: Academic and Technology Resources

Students have several avenues for receiving help on projects, labs, and with general content. Your first stop should be the TAs: they hold office hours in ITE 240 Monday through Friday. Please note that you may attend the office hours of any TA, not just the TA whose discussion section you attend. If they are unable to help you resolve your questions, try to contact your professor via email. Generally, scheduling an appointment via email is the best way to meet with your professor.

You can also visit the Learning Resources Center (LRC), where you can find tutoring for CMSC 104, CMSC 202, CMSC 202, and CMSC 203 by appointment. Each appointment is 50 minutes once a week, with a small group of other students taking the same course. To sign-up for CMSC tutoring, fill out their enrollment form.

For technology support, you can contact the Technology Support Center (TSC) on the first floor of the Albin O. Kuhn library. For more information, call 410-455-3838 or check out: http://doit.umbc.edu/tsc/

Section 9: Students with Accommodations

UMBC is committed to eliminating discriminatory obstacles that may disadvantage students based on disability. UMBC complies with federal legislation for individuals with disabilities (Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, and the ADAA of 2009) that offers reasonable accommodations to qualified students with disabilities. Student Disability Services (SDS), formerly Student Support Services, is the UMBC department designated to:

- receive and maintain confidential files of disability-related documentation,
- certify eligibility for services,
- determine reasonable accommodations,
- develop with each student plans for the provision of such accommodations, and
- serve as a liaison between faculty members and students regarding disability-related issues.

If you have a documented disability and need to request accommodations, please refer to the SDS website at http://sss.umbc.edu or contact the office by phone at 410-455-2459, via email at sss@umbc.edu, or in person in Math/Psychology Room 213. If you require accommodations for this class, make an appointment to meet with your professor to discuss your SDS-approved accommodations.

Section 10: Academic Integrity

By enrolling in this course, each student assumes the responsibilities of an active participant in UMBC's scholarly community in which everyone's academic work and behavior are held to the highest standards of honesty. Cheating, fabrication, plagiarism, and helping others to commit these acts are all forms of academic dishonesty, and they are wrong. Academic misconduct could result in disciplinary action that may include, but is not limited to, suspension or dismissal. To read the full Student Academic Conduct Policy, consult the Academic Integrity Resources for Students page (http://www.umbc.edu/undergrad_ed/ai/students.php) or the Faculty Handbook (http://provost.umbc.edu/faculty-handbook/), specifically Sections 14.2-14.3.

If you need help with a project, see your instructor, your TA, or tutors provided by the Learning Resource Center. We also encourage you to consult textbooks and the course web pages. Consult the projects page for additional Academic Integrity policies for projects.

Any act of dishonesty will be reported to the University's Academic Conduct Committee for further action, which may include, but is not limited to, academic suspension or dismissal from the University.

We will be using special software to check for cheating. The software is quite sophisticated and has surprised many students in the past. There is no difficulty in comparing every pair of assignments – even assignments submitted to other sections of this course, or from previous semesters.

This is a *non-exhaustive* list of restrictions for completing your assignments in this course.

- **If you have questions about what is acceptable, please contact a professor or TA.**

You may not look at, access, download, or obtain anyone else's work.

- You should think carefully about the assignment, and the assignment you turn in should be entirely a product of your own understanding of the material.
- You may not use any online resources to request additional help. Please contact a professor or TA for additional help.
- You may not post any part of a course document online. Posting any slides, projects, or labs will be considered a violation of this course policy and will result in an "F" for the course.
- You may not look at someone else's code "for reference," even if you put it aside before programming, and even if that person is not a CMSC 202 student.
- You may not Google or search for the solution to an assignment, even if it's "only for reference."
- You may not copy code other than that provided in the course materials (slides, book, labs, etc.).
- You may not let someone else explain a solution to you in such detail that they are effectively dictating the code to you line by line. It does not matter if this person has never taken CMSC 202, or if they are not looking at their own code while doing so!

You may not show your work to anyone except current CMSC 202 professors and TAs.

- You may not email code, in whole or in part.
- You may not post screenshots of your code, in whole or in part.
- You may not post code to public repositories or forums, in whole or in part.
- You may not allow anyone to look at your work, whether it is on your screen, in your notebook, or on printouts.
- You may not get help from another student with "debugging" your code. (Being able to find and fix your own bugs is an incredibly important skill that is best developed early on.)
- You may not explain how you solved a problem in such detail that you are effectively dictating the code line by line. Even if you are not looking at your code while doing so!
- You may not allow anyone to access your files. This means **properly protecting your work**: do not leave your computer unlocked if you step away; do not allow someone to copy code from your monitor; do not give your password to another student.

You will be held to UMBC's Undergraduate Student Academic Conduct Policy.

- The details of the policy can be found here: http://www.umbc.edu/policies/pdfs/iii-1.10.03.pdf

- These restrictions may seem overbearing and artificial. After all, in the "real world," computer scientists and programmers work together and collaborate all the time. In both the industry and in many upper-level CMSC classes, discussing solutions, debugging code together, and even using other people's code are all permitted and encouraged. However, these behaviors are **forbidden** in CMSC 202: it is not an upper-level class, and it is not the real world. These restrictions are intended to help you learn!
- There are, of course, acceptable ways to collaborate and get assistance in CMSC 202. This is a non-exhaustive list of acceptable means of collaboration. Again, if you have questions about what is acceptable, contact a professor or TA.

You should come to office hours for assistance.

- Come early and often! The day an assignment is due will be very busy.
- You may go to any office hours, including those held by a TA other than your own.
- Part of the learning process of Computer Science is getting stuck – the TAs are there to help answer your questions, and to teach you how to find your own solutions.
- Make sure you have a specific question, and can explain to the TA what it is you're having trouble understanding and/or what techniques you've already tried to solve your problem.

You may work on practice problems and go through the course notes together.

- Working with another student on example problems that are not part of the assignment will help you to gain a better understanding of different concepts.
- Studying with another student can be beneficial. Having a concept explained in a new way, or teaching a concept to someone else will significantly improve your own understanding of the material.

You may discuss how to test your code, and what kind of input might cause problems.

- We don't always tell you every little thing that could go wrong with your code!
- If you do this, make sure to make a note of it in your file header, and include the other student's name. (e.g., "Discussed input for part 3 with Dana Scully.")

You may compare output from your program and another student's program.

- As long as you do not look at each other's code, we encourage you to compare output as a way to test your program.
- If you do this, make sure to make a note of it in your file header, and include the other student's name. (e.g., "Compared output for part 1 with Fox Mulder.")

(Some material borrowed from the University of Pennsylvania's CIS 110 Collaboration Policy.)

Section 11: Tentative Schedule

Week	Meeting	Dates	Days	Topic	Chapter	Lab	Assignments/Exams
1	1	01/30 - 01/31	Mon/Tues	Introduction	1-3	0 (on your own)	
2	2	02/01 - 02/02	Wed/Thurs	C++ Primer	1-3	0 (on your own)	
2	3	02/06 - 02/07	Mon/Tues	C++ Primer (con'td)	1-3	1	
3	4	02/08 - 02/09	Wed/Thurs	Functions	3-4	1	Project 1 Out
3	5	02/13 - 02/14	Mon/Tues	Pointers and Dynamic Memory	10	2	
4	6	02/15 - 02/16	Wed/Thurs	Classes and Objects	6	2	
4	7	02/20 - 02/21	Mon/Tues	Classes and Objects	6	3	
5	8	02/22 - 02/23	Wed/Thurs	Classes and Objects	6	3	Project 1 Due Project 2 Out
5	9	02/27 - 02/28	Mon/Tues	**Exam 1**		4	**Exam 1**
6	10	03/01 - 03/02	Wed/Thurs		18	4	
6	11	03/06 - 03/07	Mon/Tues	Exceptions	18	5	
7	12	03/08 - 03/09	Wed/Thurs	Operator Overloading	8	5	Project 2 Due
7	13	03/13 - 03/14	Mon/Tues	Copy and Assignment		6	
8	14	03/15 - 03/16	Wed/Thurs	Inheritance	14	6	Project 3 Out
8	15	03/20 - 03/21	Mon/Tues	**SPRING BREAK**	14	No Lab	**NO CLASS**
9	16	03/22 - 03/23	Wed/Thurs	**SPRING BREAK**	14	No Lab	**NO CLASS**
9	17	03/27 - 03/28	Mon/Tues	Polymorphism	15	7	
10	18	03/29 - 03/30	Wed/Thurs	Polymorphism	15	7	Project 3 Due
10	19	04/03 - 04/04	Mon/Tues	**Exam 2**		8	**Exam 2**
11	20	04/05 - 04/06	Wed/Thurs	Exceptions	15	8	Project 4 Out
11	21	04/10 - 04/11	Mon/Tues	Templates	16	9	
12	22	04/12 - 04/13	Wed/Thurs	Templates	16	9	
12	23	04/17 - 04/18	Mon/Tues	Iterators	19	10	
13	24	04/19 - 04/20	Wed/Thurs	Iterators	19	10	Project 4 Due
13	25	04/24 - 04/25	Mon/Tues	Iterators	19	11	
14	26	04/26 - 04/27	Wed/Thurs	Iterators	19	11	Project 5 Out
14	27	05/01 - 05/02	Mon/Tues	Advanced Topics		12	
15	28	05/03 - 05/04	Wed/Thurs	Advanced Topics		12	
15	29	05/08 - 05/09	Mon/Tues	Advanced Topics		No Lab	
16	30	05/10 - 05/11	Wed/Thurs	Advanced Topics		No Lab	Project 5 Due
16	31	05/15 - 05/16	Mon/Tues	Catch-up and Review		No Lab	
Common Final Exam: TBD							**Final Exam**

This schedule is subject to change without notification from the professor.