



Semester: Fall 2020

Location: Online via Blackboard Connect

Time: Tuesdays & Thursdays 5:30 – 6:45p

Instructor: Richard Zak

Email: richard.zak@umbc.edu

Teaching Fellow: Fredrick Gough

Email: vf15810@umbc.edu

Day/Hours Available

- We can meet 30 minutes prior to class if you coordinate with us prior to the day of class. We can also stay after class for about 30 minutes.
- In Email: Anytime, and we will respond within 48 hours.

Blackboard Collaborate

Do to the COVID-19 pandemic, class will meet virtually. Blackboard Collaborate is accessible via <https://blackboard.umbc.edu>, displayed on the side menu bar as "Bb Collaborate". For information on UMBC's response to the Coronavirus outbreak, visit the UMBC website for the Coronavirus at <https://covid19.umbc.edu/>.

Course Description

This course is designed to provide an introduction to problem solving and computer programming that does not require prior programming experience. Elementary problem solving skills and algorithm development will be introduced. Students will be taught the basic use of a programming environment and basic programming constructs (including loops, control statements, functions, and arrays). This course also teaches students the fundamentals of using the UNIX operating system, and introduces general computer science concepts.

Note: This course does not fulfill any of the computer science major requirements. Students who have taken and received transfer credit for, or who are taking concurrently any computer programming course in a high-level programming language, will not receive credit for CMSC 104. The list of such computer programming courses includes, but is not limited to AP Computer Science, CMSC 201, CMSC 202, and sections of CMSC 291 that cover programming topics.

The following is a list of the topics that will be covered:

- Introduction to Computer Organization and Architecture
- Data Representation and Memory Usage
- Introduction to Operating Systems (Linux)
- Introduction to Software Engineering Using Top-Down Design
- Programming in C
- Problem Solving and Algorithm Development



Overall Course Objectives

After completion of this course, students will be able to:

- describe basic computer hardware and software,
- create, edit, and remove files and directories in Unix,
- navigate the Linux command line using UMBC's Linux GL environment,
- write C programs with loops, control statements, functions, and arrays that compile and solve their intended problems.

Course Textbook

C How to Program by Deitel & Deitel, Eighth Edition. Publisher: Pearson; ISBN 978-0133976892.

Course Work

Attendance It is important to be present for each class, though it's up to the student to best manage their own time. This is your time to have regular interaction with the instructor and Teaching Fellow, to ask questions, and seek clarification. I cannot overstate the importance of being able to ask questions and engage in dialog to help facilitate the learning process.

Classwork & Homework Assignments will be submitted using the submit system on GL (ssh userID@gl.umbc.edu). All assignments are due one week after being assigned. For example, Classwork 1 is assigned on Thursday, August 27th, therefore the due date is 11:59 PM on Thursday, September 3rd. An example of the submit command: `submit cs104 cw1 proj.txt file2.ext`. Assignments may be completed early, but late assignments will not be accepted.

Software Windows users will need Putty <https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html> and WinSCP <https://winscp.net/eng/index.php> for connecting to the UMBC Linux servers and transferring files. Both programs are free. Mac users may want to use Cyberduck <https://cyberduck.io/> or Transmit <https://panic.com/transmit/> to help with file transfers, but this isn't required, as the Mac command line allows for SSH connections and file transfers natively.

Quizzes There are five quizzes, and they will be held during the first 40 minutes of the class in which they're administered. The best way to study for the quiz is to do your homework and learn from it. Quizzes will be administered using the Respondus Lockdown Browser in Blackboard, so please read the following section for details on how to set it up and use it. There will be a practice quiz early in the semester to ensure everyone can use the system.

LockDown Browser This course uses the LockDown Browser for online exams. Watch this short video to get a basic understanding of LockDown Browser and the optional webcam feature (which may be required for some exams) <http://www.respondus.com/products/lockdown-browser/student-movie.shtml>. Then download and install LockDown Browser from this link: <http://www.respondus.com/lockdown/download.php?id=978442813>. NOTE: This link is unique for



UMBC. It cannot be used by non-UMBC students or for another Blackboard or LMS outside of our campus. To take an online test, start LockDown Browser and navigate to the exam. You won't be able to access the exam with a standard web browser. For additional details on using LockDown Browser, review this FAQ <https://wiki.umbc.edu/x/BQb9Aw> or the Respondus Student Quick Start Guide (PDF) <http://respondus.com/products/lockdown-browser/guides.shtml#student>. Finally, when taking an online exam, follow these guidelines:

- Select a location where you won't be interrupted
- Before starting the test, know how much time is available for it, and that you've allotted sufficient time to complete it
- Turn off all mobile devices, phones, etc. and don't have them within reach
- Clear your area of all external materials — books, papers, other computers, or devices
- Remain at your desk or workstation for the duration of the test
- LockDown Browser will prevent you from accessing other websites or applications; you will be unable to exit the test until all questions are completed and submitted

Exams There will be one exam, the final. It is designed to reinforce the topics discussed throughout the semester in order to promote retention of the information.

Course Policies

Grading

<u>Scale</u>		<u>Course Work</u>	<u>Grade Distribution</u>
90%-100%	A	Classwork	15%
80%-89%	B	Homework	25%
70%-79%	C	Quizzes	30%
60%-69%	D	Final Exam	30%
<60%	F		

For borderline grades, there may be adjustments in the student's favor based on attendance, but under no circumstances will the letter grades be lower than in the standard formula. Grades will not be "curved" in the sense that the percentages of A's, B's and C's are not fixed. As a guideline, a student receiving an "A" should be able to produce correct programs for the homework assignments and quizzes with ease.

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 find useful information about avoiding plagiarism infractions through appropriate citations, or to read the full policy regarding student academic misconduct for the graduate school, please see <http://www.umbc.edu/provost/integrity>.



Schedule

Note: The schedule is subject to change. However, any changes will be thoroughly discussed and well disseminated. The lecture & textbook topics don't usually align, that's okay, please read the chapter before class starts anyway.

Date	Week	Topic	Chapter	Assignment
Th Aug 27	1	Introduction, Syllabus Review, Linux @ UMBC	1, Appendix C	Classwork 1
Tu Sept 1	2	L2: Machine Architecture & Number Systems	2 & 3	Classwork 2
Th Sept 3	2	L3: Operating Systems	4	Homework 1
Tu Sept 8	3	L4 & 5: Algorithms	5	
Th Sept 10	3	p01-hello (Practice)		Classwork 3
Tu Sept 15	4	Quiz 1		
Th Sept 17	4	L6: Introduction to C	6	Homework 2
Tu Sept 22	5	L7: Variables in C, L8: Arithmetic Operators in C	7	
Th Sept 24	5	p02-scanf	8	Classwork 4
Tu Sept 29	6	L9: Relational & Logical Operators	10	Homework 3
Th Oct 01	6	L10: While Loops	11	Classwork 5
Tu Oct 06	7	Makefiles	12	Homework 4
Th Oct 08	7	Quiz 2		Classwork 6
Tu Oct 13	8	L11: More Loops, p09-for	13	
Th Oct 15	8	L12: Assignment Operators	14	Homework 5
Tu Oct 20	9	Quiz 3	10	
Th Oct 22	9	L13: Switch Statements	11	Homework 6
Tu Oct 27	10	p03-functions demo		Classwork 7
Th Oct 29	10	L14: Functions, Part I		Homework 7
Tu Nov 03	11	L15: Functions, Part II	12	
Th Nov 05	11	L16: Functions, Part III		
Tu Nov 10	12		13	Classwork 8
Th Nov 12	12	L17: Header Files	14	Homework 8
Tu Nov 17	13	Quiz 4		Classwork 9
Th Nov 19	13	L18: Arrays, Part I		
Tu Nov 24	14	L19: Arrays, Part II		Homework 9
Th Nov 26	14	Thanksgiving Break		
Tu Dec 01	15	Quiz 5	15 (optional)	Classwork 10
Th Dec 03	15	p16-bubble		Homework 10
Tu Dec 08	16	Review		
Th Dec 10	16	Final Exam		

Title IX Statement

As an instructor, I am considered a Responsible Employee, per UMBC's Policy on Prohibited Sexual Misconduct, Interpersonal Violence, and Other Related Misconduct ¹. While my goal is for you to be able to share information related to your life experiences through discussion and written work, I want to be transparent that as a Responsible Employee I am required to report disclosures of sexual assault, domestic violence, relationship violence, stalking, and/or gender-based harassment to the University's Title IX Coordinator.

As an instructor, I also have a mandatory obligation to report disclosures of or suspected instances of child abuse or neglect².

¹<http://humanrelations.umbc.edu/sexual-misconduct/umbc-resource-page-for-sexual-misconduct-and-other-related-mi>

²<http://www.usmh.usmd.edu/regents/bylaws/SectionVI/VI150.pdf>



The purpose of these reporting requirements is for the University to inform you of options, supports and resources; you will not be forced to file a report with the police. Further, you are able to receive supports and resources, even if you choose to not want any action taken. Please note that in certain situations, based on the nature of the disclosure, the University may need to take action.

Resources to Help you Succeed in Online Courses

Many students need additional support to succeed in online courses. Click on the following links for helpful resources: UMBC's Academic Success Center (ASC) <https://academicsuccess.umbc.edu/> provides a range of resources to support students as they progress toward degree completion. They will continue to offer all of their services online. The ASC has created a specialized set of Online Learning Resources https://lrc.umbc.edu/online_learning/, including videos and guides to help students succeed while learning online. In addition, check out the following resources:

- Academic Success Center Resources <https://academicsuccess.umbc.edu/asc-business-continuity/> include: Online tutoring and writing support, supplemental instruction/peer-assisted study sessions (SI PASS), placement testing, FYI academic alerts, success courses, academic advocacy, academic policy and academic success meetings.
- Tutoring and Writing Center Appointments <https://lrc.umbc.edu/tutor/b> will be online; students can make appointments by going to <https://saml2.go-redrock.com/relay.php>.
- SI PASS <https://si.lrc.umbc.edu/> Supplemental Instruction (SI)/ Peer Assisted Study Sessions (PASS). The SI PASS program targets traditionally difficult academic courses, providing regularly scheduled, out-of-class review sessions, happening in Blackboard Collaborate inside your existing Blackboard course.
- Academic Advocates: Advocates work one-on-one with students who need support navigating academic and institutional challenges, no matter how complex the concerns (i.e., personal, academic, or financial). <https://academicadvocacy.umbc.edu/student-referrals/submit-a-referral/>
- Academic Success Meetings - Schedule a one-to-one virtual meeting with an Academic Success Center Professional who can help you with time management, study skills, and accessing campus resources. <https://lrc.umbc.edu/academic-success-meeting/>

If you have a question, please contact the ASC at academicsuccess@umbc.edu.

Additional resources: <https://docs.google.com/document/d/1xWWGAR8qEzKYr7qaVHoEhv06lyXIyn6M3M7EFZPJQgA/edit?usp=sharing>