

University at Buffalo
Department of Computer Science & Engineering
338 Davis Hall – (716) 645-3180

Syllabus

Please read this sheet carefully, and save it for future reference.

Instructor

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Teaching Assistant

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Course Information

CSE 503 Computer Science for Non-Majors I – 3 credits

Course Description

Provides the fundamentals of computer science with an emphasis on applying programming skills to solve problems and increase human efficiency. Topics include variables, data types, expressions, control flow, functions, input/output, data storage, networking, security, selection, sorting, iteration and the use of aggregate data structures such as lists and more general collections.

Students will explore the structure and design of larger programs, emphasizing design decisions that affect the efficiency, expandability, and maintainability of code while analyzing the differences amongst a variety of approaches. Additional topics include the use of libraries for data visualization, recursion, asymptotic analysis, databases, testing, and multi-language integration.

No previous programming experience required.

Course Learning Outcomes

Students who successfully complete this course will be able to:

1. Describe how course topics are used to solve real-world problems
2. Describe computational solutions to a problem they are given
3. Read and trace code
4. Translate an algorithm to a working computational solution in two or more programming languages
5. Relate a new problem to prior examples and adapt the extant solution
6. Describe the source of a bug or failure in code
7. Explain the security impacts of course topics
8. Choose an appropriate data structure to solve a problem
9. Discuss the asymptotic runtime of programs

Prerequisites

None.

Textbook

There is no textbook for the course. All other needed materials will be provided on the course website.

Computing Resources

You will be provided with a CSE computing account. You may use the lab facilities in Baldy 21. These facilities are available for use as listed on the course website. They are on card-access - use your UB card to open the door. For your own safety, and to protect the equipment in the lab, do not open or hold the door open in order to allow other people to gain entry to the lab. All students authorized to use the lab have card access.

You are expected to use your UB e-mail account for all communications with course staff. Always include your full name and an informative subject line for your e-mail. Any communications with course staff (professors and teaching assistants) are expected to be professional.

Course Requirements

The course has both a lecture component and a recitation (lab) component. **If you do not participate fully in both you should not expect to do well in the course.** Outside of the scheduled course times, both office hours and your own study times are critical components of the course.

Lectures

The conceptual and theoretical course content will be delivered primarily in the lectures. *Attendance in all lectures is critical to your success in this course.* If you are unable to attend a lecture because of sickness or similar reasons, get notes from a classmate. If you are out of class for an extended period of time because of sickness, notify your instructor as soon as possible, and see your instructor immediately upon your return in order to determine how to catch up. If you have missed a significant portion of the semester it is recommended that you resign from the course.

Labs

The labs are an integral part of the course. *Attendance in all labs is critical to your success in the course.* In each lab section, the TAs will be available to answer questions. Your in-lab work is assessed, and contributes to your overall course grade.

Time outside of class

Office hours offer you the opportunity to ask more individual questions about the course material than can typically be addressed in lecture. Both the instructors and the teaching assistants have scheduled office hours. Office hours are held on a first-come first-served drop-in basis. No appointment is necessary to attend office hours. Office hours become increasingly busy the closer it is to a deadline or exam. Plan your use of office hours accordingly.

Individual appointments may be arranged, if needed, as schedules allow.

Course Requirements and Grading Policy

The following indicates the grade breakdown which will be used in assigning grades in the course. We reserve the right to make adjustments if we deem them to be necessary. Any changes will be communicated to the class in writing via e-mail to each student's UB e-mail account.

Requirement	Quantity	Weight	Details	Date(s)
Lab activities	10 to 12	40%	Lab activities allow students to put into practice knowledge and skills presented in lecture.	Weekly, starting week 2.
Programming project	2	40%	The two-part project gives students an opportunity to work on a substantial piece of code.	
Final Exam	1	20%	Cumulative Exam	Final Exam period

Overall course grade

Percentage	Letter grade	Percentage	Letter grade
95 - 100	A	70-74	C+
90 - 94	A-	65-69	C
85 - 89	B+	60-64	C-
80-84	B	55-59	D
75-79	B-	0-54	F

Regrading

If you have a question about the grading of any piece of work, first consult with the teaching assistant who graded your work. If you cannot resolve your questions with the teaching assistant, ask the course instructor.

Any questions about the grading of a piece of work *must be raised within one week of the date that the work was*. Active learning responses cannot be regarded.

Incomplete (I) grades

A grade of incomplete (“I”) indicates that additional course work is required to fulfill the requirements of a given course. Students may only be given an “I” grade if they have a passing average in coursework that has been completed and have well-defined parameters to complete the course requirements that could result in a grade better than the default grade. An “I” grade may not be assigned to a student who did not attend the course.

Prior to the end of the semester, students must initiate the request for an “I” grade and receive the instructor’s approval. Assignment of an “I” grade is at the discretion of the instructor.

The instructor must specify a default letter grade at the time the “I” grade is submitted. A default grade is the letter grade the student will receive if no additional coursework is completed and/or a grade change form is not filed by the instructor. “I” grades must be completed within 12 months. Individual instructors may set shorter time limits for removing an incomplete than the 12-month time limit. Upon assigning an “I” grade, the instructor shall provide the student specification, in writing or by electronic mail, of the requirements to be fulfilled, and shall file a copy with the appropriate departmental office.

Students must not re-register for courses for which they have received an “I” grade.

The last day to resign the course is **Friday, November 10, 2023**.

Diversity

The UB School of Engineering and Applied Sciences considers the diversity of its students, faculty, and staff to be a strength, critical to our success. We are committed to providing a safe space and a culture of mutual respect and inclusiveness for all. We believe a community of faculty, students, and staff who bring diverse life experiences and perspectives leads to a superior working environment, and we welcome differences in race, ethnicity, gender, age, religion, language, intellectual and physical ability, sexual orientation, gender identity, socioeconomic status, and veteran status.

Accessibility Resources

If you have any disability which requires reasonable accommodations to enable you to participate in this course, please contact the Office of Accessibility Resources in 60 Capen Hall, 716-645-2608 and also the instructor of this course during the first week of class. The office will provide you with information and review appropriate arrangements for reasonable accommodations, which can be found on the web at: <http://www.buffalo.edu/studentlife/who-we-are/departments/accessibility.html>.

Critical Campus Resources**Sexual Violence**

UB is committed to providing a safe learning environment free of all forms of discrimination and sexual harassment, including sexual assault, domestic and dating violence and stalking. If you have experienced gender-based violence (intimate partner violence, attempted or completed sexual assault, harassment, coercion, stalking, etc.), UB has resources to help. This includes academic accommodations, health and counseling services, housing accommodations, helping with legal protective orders, and assistance with reporting the incident to police or other UB officials if you so choose. Please contact UB’s Title IX Coordinator at 716-645-2266 for more information. For confidential assistance, you may also contact a Crisis Services Campus Advocate at 716-796-4399.

Mental Health

As a student you may experience a range of issues that can cause barriers to learning or reduce your ability to participate in daily activities. These might include strained relationships, anxiety, high levels of stress, alcohol/drug problems, feeling down, health concerns, or unwanted sexual experiences. Counseling, Health Services, and Health Promotion are here to help with these or other issues you may experience. You can learn more about these programs and services by contacting:

Counseling Services:

- 120 Richmond Quad (North Campus), 716-645-2720
- 202 Michael Hall (South Campus), 716-829-5800

Health Services:

- Michael Hall (South Campus), 716-829-3316

Health Promotion:

- 114 Student Union (North Campus), 716-645-2837

Classroom Decorum

To prevent and respond to distracting behavior faculty should clarify standards for the conduct of class, either in the syllabus, or by referencing the expectations cited in the Student Conduct Regulations.

Classroom "etiquette" expectations should include:

- Attending classes and paying attention. Do not ask an instructor in class to go over material you missed by skipping a class or not concentrating.
- Not coming to class late or leaving early. If you must enter a class late, do so quietly and do not disrupt the class by walking between the class and the instructor. Do not leave class unless it is an absolute necessity.
- Not talking with other classmates while the instructor or another student is speaking.
- If you have a question or a comment, please raise your hand, rather than starting a conversation about it with your neighbor.
- Showing respect and concern for others by not monopolizing class discussion. Allow others time to give their input and ask questions. Do not stray from the topic of class discussion.
- Not eating and drinking during class time. ○ Turning off the electronics: cell phones, pagers, and beeper watches. ○ Avoiding audible and visible signs of restlessness. These are both rude and disruptive to the rest of the class.
- Focusing on class material during class time. Sleeping, talking to others, doing work for another class, reading the newspaper, checking email, and exploring the internet are unacceptable and can be disruptive.
- Not packing bookbags or backpacks to leave until the instructor has dismissed class.

Academic Integrity

Academic integrity is a fundamental university value. Through the honest completion of academic work, students sustain the integrity of the university while facilitating the university's imperative for the transmission of knowledge and culture based upon the generation of new and innovative ideas. Please refer to the university Undergraduate Academic Integrity Policy

(https://catalog.buffalo.edu/policies/academic_integrity_2019-20.html) for additional information.

As an engineer or computer scientist, you have special ethical obligations. As per the NSPE Code of Ethics, "engineers shall avoid deceptive acts" and "shall conduct themselves honorably, responsibly, ethically, and lawfully so as to enhance the honor, reputation, and usefulness of the profession

(<https://www.nspe.org/resources/ethics/code-ethics>). Similar sentiments of honesty, integrity, fairness, and responsibility are fundamental to the ACM Code of Ethics (<https://www.acm.org/code-of-ethics>).

A violation in this class generally results in an F for the entire course. The Computer Science and Engineering department's policy on academic integrity can be found here:

<https://engineering.buffalo.edu/computer-science-engineering/information-for-students/policies/academic-integrity.html>

The syllabus is subject to change based on the needs of the course and will be communicated with you as appropriate.