Introduction to Computer Science I
Spring 2018-2019 Course Syllabus
(Based upon Mal Gunasekera’s, and Nasseef Abukamail’s syllabi)

Instructor: David Chelberg
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Office Hours: Tues. 9:00am-10:30am, Thurs. 10-11:30am, and by email appointment.
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Call Numbers: 2395 Lecture Tue./Thr. 7:30am – 8:50am ARC 102
In addition to lecture you must be registered for a lab section, see the on-line system for which sections correspond to this class.

Prereq: Math 113 or 1200 or Math Placement Level 2 or higher


Grading: Your grade will be based on a composite score computed according to the following breakdown:

Homework assignments 20%
Lab assignments 20%
Quizzes 10% (lowest grade will be dropped)
MyProgrammingLab 5%
Midterm exam 20%
Final Exam 25%

Grades are computed according to the following scale (but may be curved at the instructor’s discretion):

93% - 100% A 89.5% - 93% A-
87% - 89.5% B+ 83% - 87% B
79.5% - 83% B- 77% - 79.5% C+ etc.

Grading Policy:
There will be one midterm exam (March 7) and a comprehensive final exam.
There will also be short quizzes throughout the quarter, except for the week of the midterm. Quizzes cannot be made up and students missing a class on the day of the quiz will be given zero. According to the Undergraduate Catalog (Class Attendance Policy), certain absences are permitted. Missed quiz grades as a result of an excused absence will be the average of the grades you receive on all the other quizzes taken during the quarter. The lowest quiz grade is dropped. Also if
because of some exceptional circumstance you cannot attend test, contact your instructor before the fact, not after, to discuss your options.

Important dates:

The Midterm will be March 7, 2019. The final exam will be on Tuesday, April 30, at 8:00a.m. - 10:00a.m., in our usual classroom. The final will not be given early.

Expectations:

Plan to devote a large amount of time outside of class (at least three hours per class) to the designing, coding, debugging, and testing of programs. You will be expected to complete lab assignments and homework assignments, to study assigned sections in the textbook, and to work out exercises in the book every week.

Attendance Policy:

Attendance and class participation are important and sometimes become a factor in determining the final grade. Students must attend laboratory sessions.

Lab Grade:

Your lab grade will be determined by the work you accomplish in the two hours you are actually in the lab. In addition, some pre-lab work may be required to be completed before the labs. If you miss a lab, you will be given a zero for that lab unless you have made prior arrangements with your TA.

Academic dishonesty:

In this course it is acceptable for students to discuss general concepts with other students. However, students are expected to turn in only their own work with proper documentation. If another student turns in your work, or if you turn in the work of another person, all students involved will receive a zero on that assignment. If I find further evidence of cheating you will receive a zero for another assignment or an F in the course and I will report the matter to university judiciaries. Please review Ohio University's full definition of academic misconduct and the associated penalties at: http://www.ohio.edu/communitystandards/academic/index.cfm

Course Overview¹:

This is the first required computer science. This course provides an introduction to computer science, the discipline of computing, and the programming language C++. Programming is a fundamental skill for computer scientists and engineers. While programming is not the only task performed by computer scientists “on the job,” this skill forms the foundation for computer scientists to build upon for more

¹ Taken From Dr. David Juedes’s Fall 2009 Computer Science 240 A Syllabus
advanced aspects of computing such as networking, databases, computer graphics/game engines, artificial intelligence, etc.
Students with Disabilities:
Any student who suspects they may need an accommodation based on the impact of a disability should contact the class instructor privately to discuss the student’s specific needs and provide written documentation from the Office of Student Accessibility Services (740.593.2620, http://www.ohio.edu/uc/sas). In compliance with the Americans with Disabilities Act (ADA), all qualified students enrolled in this course are entitled to “reasonable accommodations.”

List of Topics
1. Introduction to C++, Review of Algorithms (chap 1)
2. Introduction to Unix and C++ basics (chap 2)
3. Loops and Advanced Flow of Control (chap 3)
4. Procedural Abstraction and Functions that return a value (chap 4)
5. Functions (chap 5)
6. I/O Streams (chap 6)
7. Statically Allocated Arrays (chap 7)
8. String class (chap 8)
9. Pointers, Dynamic Memory and Dynamic Arrays (chap 9)
10. Objects and Classes (chap 10)
11. Friend Functions and Operator Overloading (chap 11)
12. Defining ADT Operations and Separate Compilation (chap 12)
13. Short Version of ACM Code of Ethics

Course outcomes mapped onto student outcomes:

“As an ABET accredited computer science (and electrical engineering) degree program, we are expected to demonstrate that student can master certain general skills by the time of graduation. These skills are referred to as “program outcomes.” Each course in our curriculum has a set of “course outcomes” that help students achieve the general skill sets specified by the program outcomes.”

2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
   • Students will be able to develop an algorithm in pseudo code or English and then to convert it into C++.
   • Students will be able to use basic C++ concepts including data types, variables, input and output streams, and control structures.
   • Students will be able to produce void and value-returning functions.
   • Students will be able to use a debugger to find and correct errors.
   • Students will be able to describe how arrays are stored and referenced in memory.
   • Students will be able to analyze elementary sorting techniques.
   • Students will be able to design and implement an abstract data using structures and classes with a full set of operators.

2 Taken From Dr. David Juedes’s Fall 2008 Computer Science 240 A Syllabus
**Duty to Report Sexual Misconduct:**

If I learn of any instances of sexual misconduct, relationship violence, stalking, or other forms of prohibited sexual misconduct, I am required to report them (all university employees are mandatory reporters if they learn of sexual misconduct). If you wish to share such information in confidence, please contact one of the many confidential resources listed at [https://www.ohio.edu/equity-civil-rights/Resources.cfm](https://www.ohio.edu/equity-civil-rights/Resources.cfm).

**Note:**

- All assignments and labs will be available via a course account on the prime computers (machines in Stocker 307, other computer labs, p1, p2, etc.).
- Be sure to notify me of any exam conflicts or other extenuating circumstances in advance.
- Quizzes will be announced at least two days in advance and cannot be made up.
- Homework is due by the time specified; late homework will lose **20%** of its value **per day late**.
- The tests, and quizzes will be closed book, closed notes.
- The final exam will be comprehensive, although it will emphasize the material in the latter part of the course.