

CSCI 1312 (Introduction to Programming for Engineering), Fall 2018

Syllabus

1 Course description

This course is an introductory course in programming, strongly resembling our first course for computer science majors (CSCI 1320, Principles of Computer Science I), but tailored to the requirements of the Engineering Science department.

Like CSCI 1320, it follows the guidelines established by the Association for Computing Machinery (described in Computer Science Curriculum 2013¹). It also satisfies the Digital Literacy requirement in the Pathways curriculum.

The course is mostly an introduction to problem-solving by programming, but it also includes material traditionally covered in a first course on programming (basics of computer arithmetic, data structures, and sorting and searching), and material to meet the criteria for the Digital Literacy requirement.

2 Basic information

Class meeting times and location

- MWF 11:30am – 12:20pm, CSI 388

Prerequisites

- None, but I assume a knowledge of mathematics roughly equivalent to a pre-calculus course.

Instructor contact information

- Dr. Berna Massingill
- Office: CSI 270J
- Office phone: (210) 999-8138
- E-mail: bmassing@cs.trinity.edu

Office hours

A current schedule of office hours can be found on my home Web page (<http://www.cs.trinity.edu/~bmassing>). If I'm not in my office during office hours, I should be somewhere in the CSI, probably in one of the labs helping another student.

In addition to scheduled office hours, you're welcome to drop by and see if I'm in my office and free to talk, or you can make an appointment by sending me e-mail.

Also, e-mail is almost always a good way to reach me; I normally check it fairly often and reply to student questions promptly.

¹<http://www.acm.org/education/CS2013-final-report.pdf>

3 Course materials

Web site

Most course-related information (this syllabus, homework and reading assignments, etc.) will be made available via the course Web site. You can find it linked from my home page (<http://www.cs.trinity.edu/~bmassing>) or directly at `\CourseWeb/HTML/`; there is also a link in TLearn.

Textbook

- Behrouz A. Forouzan and Richard F. Gilberg. *Computer Science: A Structured Programming Approach Using C*. Thomson Course Technology, third edition, 2005.

Other references

There are many books on the C language, some more reliable than others. Here are two that seem good to me.

- Samuel P. Harbison and Guy L. Steele. *C: A Reference Manual*. Prentice Hall, fifth edition, 2002. A good reference manual, though a bit dated.
- Brian W. Kernighan and Dennis M. Ritchie. *The C Programming Language*. Prentice Hall PTR, second edition, 1988. The classic book on the language — dated in some ways but still good.

4 Course requirements

Grading

Grades in this course will be determined by scores on two major exams (a midterm and a final), several in-class quizzes, several homework assignments, and class attendance, weighted as follows.

Component	Maximum points
Midterm exam	100
Final exam	200
Quizzes	50
Homework	about 350
Class participation	20

Numeric grades will be calculated as a simple percentage, by dividing total points earned on the above components by total points possible. These numeric grades will then be converted to letter grades in a way that takes into account the performance of all students, but in no case will the resulting letter grades be worse than you would receive based on the following scheme.

Numeric grade	Letter grade
90 – 100	A-/A
80 – 89	B-/B/B+
70 – 79	C-/C/C+
60 – 69	D/D+
0 – 59	F

Exams

Exams are comprehensive but will emphasize the most recent material. They are scheduled as follows; please plan accordingly (i.e., avoid scheduling anything else for these times).

- Midterm: October 10, in class.
- Final exam: December 10, noon.

Quizzes

About every other week there will be a short in-class quiz. Dates will be announced via the course Web site. They will usually cover material from recent classes and reading; the questions will be similar in format to those you are likely to see on the major exams. There will be about six quizzes over the course of the semester, and the lowest grade will be dropped.

Homework assignments

Homework, in the form of programming assignments, is a crucial part of this course; most of what you learn will likely be learned in the course of completing these assignments. Detailed requirements will be provided as part of each assignment; due dates will be announced via the course Web site. You are strongly encouraged to use the department's network of Linux machines, but unless otherwise specified for individual assignments, you may use any other system that provides a suitable environment.

Attendance

Regular class attendance is strongly encouraged, and part of your grade is based on it. You can miss a week's worth of classes without penalty; after that, each unexcused absence reduces this part of your grade. If you must miss class for whatever reason, see the notes online for a summary of what you missed, including any announcements. It may also be helpful to check with a classmate for more about what we did in class.

E-mail

Course-related announcements will often be made by sending e-mail to the Trinity e-mail addresses of all registered students. Students are strongly encouraged to read mail sent to their Trinity addresses frequently.

Late and missed work

Exams can be made up only in cases of documented conflict with a university-sponsored activity, documented medical emergency, or conflict with a religious holiday.

Quizzes normally cannot be made up, but the lowest quiz score will be dropped, so you can miss one quiz without penalty.

Unless otherwise stated for a particular assignment, homework will be accepted up to one class period late, *but no more*, at a penalty of 10 percent off per working day. This penalty will be waived if you submit a preliminary version of the assignment on time and a revised version no more than one class period later. It may also be waived or additional time allowed *at the instructor's discretion* in cases of illness or conflict with a university-sponsored activity or religious holiday.

If you have unusual circumstances (as we all sometimes do), please discuss these with me as far in advance as possible.

Academic integrity at Trinity

All students are covered by a policy that prohibits dishonesty in academic work. Under the Honor Code, a faculty member will (or a student may) report an alleged violation to the Academic Honor Council. It is the task of the Council to investigate, adjudicate, and assign a punishment within certain guidelines if a violation has been verified. *Students are required to pledge all written work that is submitted for a grade: “On my honor, I have neither given nor received any unauthorized assistance on this work” and their signature. The pledge may be abbreviated “pledged” with a signature.* You will be asked to do this explicitly on everything you turn in for this course.

Collaboration and academic integrity in this course

Unless otherwise specified, all work submitted for a grade (homework assignments, quizzes, and exams) must represent your own individual effort, except as discussed below. All submitted work will be considered pledged work.

Getting help is allowed and even encouraged, but not to the point where the helper is providing answers you just transcribe. Similarly, discussion of homework assignments among students is allowed, but not to the point where detailed answers are being written collectively. If you are working with other students in a lab, seeing another student’s work may be unavoidable, but please do *not* share answers electronically.

However you get answers, you should write or type them up yourself. More importantly, *you should completely understand everything you turn in*, and by turning it in you are implicitly saying that you do.

Graded papers and sample solutions (to exams, quizzes, and homeworks) from previous semesters, for this course or other courses I teach, are off limits.

Answers that are identical beyond coincidence (either to another student’s work or to a sample solution from a previous semester) will be considered to be in violation of the Honor Code, and *will result in appropriate action.*

If you are uncertain about whether a particular level of collaboration is acceptable, please ask for clarification. You will be asked to document any collaboration; details will be provided with assignments.