

14:332:252 - Programming Methodology I - Spring 2016

Classes:

- Fridays 3:20pm - 6:00pm, in HLL-114, Busch Campus

Labs:

- Section: 01 Time: Thu 1:40 - 3:00pm Room: DSV Lab (ENG-B125)
- Section: 02 Time: Wed 12:00-1:20pm Room: DSV Lab (ENG-B125)
- Section: 03 Time: Thu 10:20-11:40am Room: DSV Lab (ENG-B125)
- Section: 04 Time: Mon 12:00-1:20pm Room: DSV Lab (ENG-B125)

Instructor:

- [Ins] Saman Zonouz

TAs:

- [TA1] Tuan Le
 - Office: EE-208
 - Office Hour: Wed. 10-11:30am
- [TA2] Moliang Zhou
 - Office: EE-208
 - Office Hour: Mon. 10-11:30am
- [TA3] Jia Xue
 - Office: EE-208
 - Office Hour: Tue. 10-11:30am

Graders:

- [G1] Yizhe Zhu
 - Office: EE-208
 - Office hour: Thu. 1-2:30pm
- [G2] Lulu Zhao
 - Office: EE-208
 - Office hour: Wed. 2-3:30pm

Course communication:

- will be through the online forum
- **Please do not send *individual* emails to the instructor, TAs or the grader's. Use office hours and labs instead with the TAs and graders; or the**

hands-on sessions at the end of each class with the Instructor
(e.g., I appreciate your feedback on the course).

- TAs will notify the instructor if the question cannot be answered by them.
- Students will have to participate in the forum, discuss and ask/answer questions. Each student's activity/contribution level (and not duplicating already-answered questions) will be counted towards the participation level grade.
- First subject word has to be one of the following key-terms:
 - [Course-Quiz-x], where 'x' is the quiz number (e.g., "[Course-Quiz-3]" [Lab-Sec-1-Quiz-x], [Course-HW-x], [Lab-Sec-2-HW-x], [Midterm], [Final], [Other])
The emails must follow the above-mentioned subject convention, or the sender will risk getting delayed responses as the priority will be given to the compliant email subjects.
- Messages will be replied to within a two days of their delivery time. Please send your emails timely (e.g., emails few hours before the deadlines will likely not get replied and should not be used as excuses for late/incomplete submissions etc).

Textbooks:

The textbooks for the course are:

- *C++ How to Program* by Deitel and Deitel (8th edition)
- Some of the material will not be in the books.
(slides/handouts will be provided instead)

About This Course

The first part of this course covers the basics of C++. It is assumed that you have some prior programming experience (not necessarily in C++). The basics include: program structure, looping, mathematical expression, functions, arrays, vectors, pointers, classes, recursion and simple algorithm analysis. The second part of the course covers object-oriented design (classes, inheritance, polymorphism), abstract data types, stacks, queues and linked lists (as time permits). It is an intensive course covering the basics of C++ and some data structures.

Class Session Organization

The sessions will include mostly lectures of the material, video demonstration of the concepts, followed by hands-on tutorial sessions. In-person class participation is highly recommended.

Goals and Motivation

The goal of this course is to learn programming as a problem-solving skill. Problem solving is stressed using a variety of tools such as simple algorithm (program) analysis, and basic data structures. Since this is the only required programming course for the EE majors, some data structure is included in the course.

Lab

- The goal of the lab is to learn the basics of C++ programming. Labs will be held in the DSV lab in the Engineering Building (B-125/127) a PC laboratory with about 60 seats.
- The lab assignment will be uploaded on every Saturday (e.g., Mar 5th)
 - Common among sections
 - submission deadline: next Friday (e.g., Mar 11th)
- You will attend only your lab Section + any of the office hours during the week
- Lab pop quizzes
- lab grading: 64% on assignments; 36% on quizzes
- You must have an engineering account to log into the computers in the DSV lab. The administrators sit adjacent to the lab and can help you to set up an account.

Homeworks

The homeworks will be assigned on specified dates. Each homework will have preferred and hard deadlines: Preferred deadline is on Tuesdays of the deadline week (turn in to TAs; Deadline: end of office hours), and the hard deadline is during the class time on Fridays (turn in to the instructor; deadline: end of the class). The students may choose either deadline, but all the questions about the homework can be asked before the preferred deadline only.

No homework related questions will be answered after the preferred deadline.

No homework will be accepted after the hard deadlines (no after-class turn ins).

Grades and feedback requests

Grades will be released two weeks after the assignment/exam/etc. students may have complaints about the grades until one week after the grades' release date.

No more objections after one week will be accepted.

All the objections will have to be during the office hours (not on the forum)

Pop quizzes

There will be pop quizzes given. Quizzes will be given in class, or lab. A missed quiz will result in a 0 grade. There will be no retake on quizzes. The quizzes will be averaged together. The lowest quiz grade of each student will be dropped (so if you miss a quiz

that will be the lowest and will not count).

Quizzes must be taken alone.

Policies

- Any questions should be asked on the forum, in class, or during the TA/Graders office hours (no emails).
- All the assignment submissions will be on Sakai.
- Check the forums before asking a question since it may have been already answered. To prevent duplication and time waste, questions to individual emails will not be replied.
- If you miss an assignment due to illness or other emergency a note should be obtained from the dean's office excusing you from the homework, lab work, or exam. No email requests by the student will be accepted. You need a note from the dean's office (you can bring them a doctor's note and they will send notification to your instructors).
- All programming homework must compile and run on the DSV lab machines using g++ on the Ubuntu Linux images. Feel free to test your code with other compilers, but test your final version in the DSV lab before submitting it. Submission of a wrong or incompatible executable will result in missing the whole grade for the assignment and no resubmissions are accepted under any circumstances.
- Any type of plagiarism (such as getting solutions from others, and distributing your solutions to others) will result in a '0' grade for that assignment. Additionally, it will be reported to the College and will be handle by the University's relevant departments.

Grading Policy:

Grades will be tentatively based on a point total computed as the following:

- Course
 - 10% Project + 8% homeworks + 7% forum participation + 15% quizzes + 25% midterm + 35% final (accumulative)
- Lab
 - 36% quizzes + 64% Lab projects

Gradelines: The following gradelines will be used for the course and Lab.

- A [90, 100] - inclusive bracket; B+ [87, 90) - exclusive parenthesis; B [80, 87); C+ [77, 80); C [70, 77); D [60, 70); F [0, 60)
- **There will be NO makeups for the exams, HWs, quizzes, other assignments.**
- **Submission deadline are hard (no late submission for any reason).**

- **Submission format compliance and correct submission is the student's responsibility (there will be no resubmissions).**
- The students are required to read the full chapters of the book. Exams will be from all sections of the assigned chapters even though we will only cover the core important points in the class given the time constraints.

The University policies on Academic Honesty will be strictly followed.

Detailed class schedule:

Date	Topic	Assignments
1) 1/22	Introduction and basic programming (Chapters 1,2) Control structures: if and switch (Chapters 4)	
2) 1/29	Control structures: looping (Chapter 5) Functions 1 (Chapter 6)	HW1 assignment
3) 2/5	Functions 2 (Chapter 6) Arrays (Chapter 7)	
4) 2/12	Vectors (Chapter 7) Search and Sorting 1 (Chapter 7 and 19)	HW1 due (P: 2/9; H: 2/12); HW2 assignment
5) 2/19	Searching and Sorting 2 (Chapter 7 and 19) Pointers 1 (Chapter 8)	
6) 2/26	Pointers 2 (Chapter 8)	HW2 due (P: 2/23; H: 2/26) HW3 assignment
7) 3/4	Classes (Chapter 3 and 9)	
3/11	Midterm	
8) 3/25	Classes 2 (Chapter 10) Operator overloading 1 (Chapter 11)	HW3 due (P: 3/22; H: 3/25) Project assignment
9) 4/1	Operator overloading 2 (Chapter 11) Inheritance 1 (Chapter 12)	HW4 assignment
10) 4/8	Inheritance 2 (Chapter 12) Polymorphism (Chapter 13)	
11) 4/15	Stream IO (Chapter 15) File processing (Chapter 17)	HW4 due (P: 4/12; H: 4/15) HW5 assignment
12) 4/22	Standard Template Library (Chapter 22) Standard Library Algorithms (Ed. 9: Chapter 16)	
13) 4/29	Exception handling (Chapter 16) Final Review	HW5 due (P: 4/26; H: 4/29) Project due (P: 4/26; H: 4/29)
5/5-11	Final Exam	

Detailed TA/Grader assignments:

Assignment	TA1	TA2	TA3	G1	G2
Odd Course-Quizzes (e.g., Course-Quiz-1, Course-Quiz-3, etc.)				X	X
Even Course-Quizzes (e.g., Course-Quiz-2, Course-Quiz-4, etc.)				X	X
Odd Course-HWs (e.g., Course-HW1, Course-HW3, etc.)				X	X
Even Course-HWs (e.g., Course-HW2, Course-HW4, etc.)				X	X
Midterm	X	X	X	X	X
Final	X	X	X	X	X
Project	X	X	X		
Odd Lab-HWs (e.g., Lab-HW1, Lab-HW3, etc.)	X	X	X		
Even Lab-HWs (e.g., Lab-HW2, Lab-HW4, etc.)	X	X	X		
Odd Lab-Quizzes (e.g., Lab-Quiz-1, Lab-Quiz-3, etc.)	X	X	X		
Even Lab-Quizzes (e.g., Lab-Quiz-2, Lab-Quiz-4, etc.)	X	X	X		