

Name	Title	E-mail	Office Hours
Sean Davis	Lecturer	ssdavis@ucdavis.edu	MWF 10-11 in 67 Kemper; MW 1:15-4 in 3052 Kemper; and by appointment.
Sabidur Rahman	TA	krahman@ucdavis.edu	W 7-midnight
Christopher Buckley	TA	cmbuckley@ucdavis.edu	T 1-4, W 5-8
Yunfeng Hong	TA	yfhong@ucdavis.edu	M 5-midnight, T 6-midnight.
Hiu Hong Yu	TA	hiuyu@ucdavis.edu	W 3-5
Shifu Wu	TA	ucdwu@ucdavis.edu	W 8-midnight

To receive help from the TAs you need to write your name and your CSIF room number on the white board in 53 Kemper.

Web page: <http://csiflabs.cs.ucdavis.edu/~ssdavis/40/homepage.html>

News group: <https://piazza.com/ucdavis/spring2017/ecs40/home>

E-mail to Sean should only be regarding personal matters, and must come from an ucdavis.edu e-mail account. All course questions should be posted piazza.

Course Materials:

Shotts, William E., Jr., *The Linux Command Line: a Complete Introduction*, San Francisco: No Starch Press, 2012.
ISBN-13: 978-1-59327-389-7

Lippman, Stanley B.; Lajoie, Josee; Moo, Barbara E., *C++ Primer*, 5th ed., San Francisco: Addison Wesley, 2013.
ISBN-13: 978-0-321-71411-4

Prerequisite: Course ECS 30 with a grade of C- or better.

Course objectives:

1. Become more familiar with software development tools such as gdb and make to further refine the programming techniques of stepwise refinement, documentation, multi-file program design, and time/storage tradeoffs.
2. Understand the UNIX OS including its processes, file system, system files, and shells.
3. Understand pointers, recursion, file manipulation, and simple data structures such as stacks, queues, and lists.
4. Learn object-oriented design and implementation of C++, including polymorphism, operator overloading, encapsulation, and inheritance.

Approximate Course Grading:

Homework and tutorials	5%
Programs	35%
Two midterms	27.5% (12.5% & 15%)
Final	32.5%
Class effort/participation	5% (extra credit)

Letter grades will be approximately: A = 90+%; B = 80-89%; C = 70-79%; D = 60-69%; F = <60%

Work Input/Output:

- Written Homework: Each student must do his or her own work. Written homework must be submitted at the beginning of class on the date due.
- Programs: Students should work together in groups of two people. The names and e-mail addresses of all group members must appear in a file named authors.csv. All students may help each other with debugging, but each group must write their own code. Programs will be submitted using the handin facility of UNIX to the cs40 account by 11:59pm on the date due. Each group should submit all of its programs to the handin directory of exactly one of its members. Groups that submit from more than one account, or submit incorrect authors.csv will lose five points. Programs that do not compile will receive no credit. Certain assignments may be submitted to the MOSS program at UC Berkeley for plagiarism analysis. Students that hand in suspicious programs may be reported to Student Judicial Affairs.

- Program re-grades: Students may edit their programs in Sean's morning office hours, and then have them re-tested for format and operation, but not design and style. Students may edit their programs during Sean's afternoon office hours only if they have work or classes during ALL of Sean's morning office hours. Such program edits may only be done within three lectures of the date that program grades are e-mailed. During busy times, a student will only be allowed five minutes to edit their program.
- All work: Late work will **NOT** be accepted without an e-mail excuse from the Health Center. All work will be returned in lecture. All work not picked up in class will be available in my office during office hours. Requests for re-grades must be submitted within three lectures of the return of the work in class.

Exams:

Exams are cumulative, closed book, and closed notes. The final will be Thursday, June 15th 1:00-3:00 in 1001 Giedt.

Discussion Sections: M 4:10-5 in 223 Olson by Chris, T 6:10-7 in 212 Wellman by Sabidur, W4:10-5 in 223 Olson by Chris, R 2:10-3 in 176 Chem (note change in room) by Sabidur, F 2:10-3 in 107 Cruess by Chris.

TENTATIVE CLASS OUTLINE

Dates	Topic	Reading
4/3	Intro, syllabus, UNIX intro, UNIX commands and utilities	Shotts: Ch. 1-4, 9 (chmod), 20 (cat, sort, diff).
4/5	UNIX utilities grep, find, tar	Shotts: Ch. 17-19.
4/7	UNIX shells, environment, quoting, redirection,	Shotts: Ch 6, 7, 11.
4/10	The Bash Shell, and Bash shell scripts	Shotts: Ch 24-29.
4/12	Shell scripts cont'd, sed, awk	Shotts: Ch. 20 (sed) http://www.grymoire.com/Unix/Awk.html
4/14	Processes, make	Shotts: Ch 10, 23.
4/17	C++ vs C	Lippman: Ch 1-6, 12.1.2, except 1.5, 2.6, 3.2-3.4, 5.6
4/19	C++ vs C cont'd	None.
4/21	Midterm #1, UNIX	None
4/24	Classes and data abstraction	Lippman: Ch 1.5, 7, 13.1-13.4
4/26	Classes and data abstraction cont'd	None.
4/28	C++ Stream input/output (last day to drop)	Lippman: Ch 8.1, 17.5.1, 17.5.2
5/1	File processing	Lippman: Ch 8.2, 17.5.3
5/3	Operator overloading	Lippman: Ch 14.
5/5	Operator overloading cont'd and linked lists	Linked list handout.
5/8	Linked lists cont'd.	None.
5/10	Inheritance	Lippman: Ch 15.1-15.7.
5/12	Virtual functions, and polymorphism	None.
5/15	Templates	Lippman: Ch 16.1 – 16.3.
5/17	Strings, string streams	Lippman: Ch 3.2, 8.3, 9.5
5/10	Standard Template Library (STL) intro, vector, iterators	Lippman: Ch 3.3, 3.4, 9.1 – 9.4
5/22	STL associative containers	Lippman: Ch 11.
5/24	STL generic algorithms	Lippman: Ch 10.
5/26	Midterm #2, UNIX, C++ through strings	None.
5/31	STL container adapters, stacks, and queues.	Lippman: Ch 9.6
6/2	STL priority_queue, recursion	Lippman: Ch 9.6
6/5	Exception handling and the preprocessor	Lippman: Ch 2.6.3, 5.6, 18.1.
6/7	Bitwise operators	Lippman: Ch 4.8