CSC 100.01 Spring 2022 Syllabus

Introduction to Programming in C/C++ (CSC 100) Spring 2022 - Marcus Birkenkrahe

1. General Course Information

- Meeting Times: Monday/Wednesday/Friday, 11:00-11:50 hrs
- Meeting place: Lyon Building Room 104
- Professor: Marcus Birkenkrahe
- Office: Derby Science Building 210
- Phone: (870) 307-7254
- Office hours: Mon/Wed/Fri 12:00-12:30 PM; Tue/Thu 2.30-3.00 PM
- Textbook: King (2008). C Programming - A Modern Approach. New York: Norton.

1.1. Objectives

This course introduces you to system programming using C. We cover C++ as an extension. System programming is pure power: it enables you to converse with the computer at a level unknown to users of Python or other high level languages. You also learn about: compilers, working on the command line, text editors like vi and Emacs, using C for Internet of Things (IoT) devices, cybersecurity, and using UML. You get a foundation in computational, critical thinking in concert with one of the three most popular languages (the other two are Python and Java). We will endeavour to cover most of chapters 1-15 of the textbook by King.

1.2. Student Learning Outcomes

Students who complete CSC 100.01 "Introduction to programming in C/C++", will be able to:

- Master basic sequential programming skills (conditional statements, loops, functions, input/output, use of data types)
- Explain the basic components of a procedural programming language
- Apply the basics of programming to solve a variety of quantitative problems
- Master computing infrastructure (compiler, editor, shell)
- Know how to effectively present assignment results

1.3. Course requirements

No prior knowledge required. Some knowledge of, and experience with computers is useful but not critical. Curiosity is essential. You will gain data literacy skills by taking this course. The course will prepare you for further studies in computer and data science, or in other disciplines that use modern computing, i.e. every discipline, from accounting to zoology).

1.4. Grading system

WHEN[1]	DESCRIPTION	IMPACT
Every session	Class assignments	10%
Weekly	Quizzes	10%
Monthly	Tests	30%
Biweekly	Lab projects	30%
End of term	Final exam	20%

You should be able to see your current grade at any time using the Schoology gradebook for the course.

1.4.1. Grading table

This table is used to convert completion rates into letter grades. For the midterm results, letter grades still carry signs, while for the term results, only straight letters are given (by rounding up).

%	Midterm Grade	Final Grade
100-98	A+	
97-96	A	A (passed -
95-90	A-	very good)
89-86	B+	
85-80	B	B (passed -
79-76	B-	good)
75-70	C+	
69-66	C	C (passed -
65-60	C-	satisfactory)
59-56	D+	
55-50	D	D (passed)
49-0	F	F (failed)

1.4.2. Class assignments (10%)

- Complete small assignments in class (participation)
- Complete assignments outside of class (homework)
- Be ready to present your results

1 Schedule may change depending on course load and progress.

1.4.3. Weekly Quizzes (10%)

- Answer multiple choice questions
- Complete quiz online outside of class
- Use for drills thereafter

1.4.4. Monthly tests (30%)

- Complete 45 min online test in class
- Recall last month of lectures and labs
- Read relevant textbook chapters

1.4.5. Biweekly lab projects (30%)

- Solve programming problems in class
- Complete assignments outside of class if necessary
- Be ready to present your solutions

1.4.6. Final exam (20%)

- 120 min multiple choice exam
- Online in Schoology in the classroom
- Sourced from the weekly quiz questions

2. Standard Policies[2]

2.1. Honor Code

All graded work in this class is to be pledged in accordance with the Lyon College Honor Code. The use of a phone for any reason during the course of an exam is considered an honor code violation.

2.2. Class Attendance Policy

Students are expected to attend all class periods for the courses in which they are enrolled. They are responsible for conferring with individual professors regarding any missed assignments. Faculty members are to notify the Registrar when a student misses the equivalent of one, two, three, and four weeks of class periods in a single course. Under this policy, there is no distinction between "excused" and "unexcused" absences, except that a student may make up work missed during an excused absence. A reminder of the college's attendance policy will be issued to the student at one week, a second reminder at two weeks, a warning at three weeks, and notification of administrative withdrawal and the assigning of an "F" grade at four weeks. Students who are administratively withdrawn from more than one course will be placed on probation or suspended.

2 Sent by the Interim Provost, Anthony Grafton.

2.3. Disabilities

Students seeking reasonable accommodations based on documented learning disabilities must contact Interim Director of Academic Support Courtney Beal in the Morrow Academic Center at (870) 307-7016 or at courtney.beal@lyon.edu.

2.4. Harassment, Discrimination, and Sexual Misconduct

Title IX and Lyon's policy prohibit harassment, discrimination and sexual misconduct. Lyon encourages anyone experiencing harassment, discrimination or sexual misconduct to talk to Danell Hetrick, Title IX Coordinator and Interim Vice-President for Student Life, or Sh'Nita Mitchell, Title IX Investigator and Associate Dean for Students, about what happened so they can get the support they need and Lyon can respond appropriately. Lyon is legally obligated to respond to reports of sexual misconduct, and therefore we cannot guarantee the confidentiality of a report, unless made to a confidential resource (Chaplain, Counselor, or Nurse). As a faculty member, I am required to report possible Title IX violations and must provide our Title IX coordinator with all relevant details. I cannot, therefore, guarantee confidentiality.

2.5. College-Wide COVID-19 Policies for Spring, 2022

- Masks are mandated for all students in classrooms, laboratories and studios. They remain optional for all persons on the Lyon campus in all other locations and outside.
- Participation in community surveillance testing is mandatory.
- Vaccines are STRONGLY encouraged for all faculty, staff, and students. Vaccines are NOT MANDATED for Lyon College community members.

Details specific to this course may be found in the subsequent pages of this syllabus. Those details will include at least the following:

- A description of the course consistent with the Lyon College catalog.
- A list of student learning outcomes for the course.
- A summary of all course requirements.
- An explanation of the grading system to be used in the course.
- Any course-specific attendance policies that go beyond the College policy.
- Details about what constitutes acceptable and unacceptable student collaboration on graded work.

3. Course specific information

3.1. Assignments and Honor Code[3]

There will be numerous assignments during the semester - e.g. programming, lessons, tests, and sprint reviews. They are due at the beginning of the class period on the due date. Once class begins, the assigment will be considered one day late if it has not been turned in. Late programs will not be accepted without an extension. Extensions will **not** be granted for reasons such as:

- You could not get to a computer

3 Taken from David Sonnier with minor modifications.

- You could not get a computer to do what you wanted it to do
- The network was down
- The printer was out of paper or toner
- You erased your files, lost your homework, or misplaced your flash drive
- You had other coursework or family commitments that interfered with your work in this course

Put "Pledged" and a note of any collaboration in the comments of any program you turn in. Programming assignments are individual efforts, but you may seek assistance from another student or the course instructor. You may not copy someone else's solution. If you are having trouble finishing an assignment, it is far better to do your own work and receive a low score than to go through an honor trial and suffer the penalties that may be involved.

What is cheating on an assignment? Here are a few examples:

- Having someone else write your assignment, in whole or in part
- Copying an assignment someone else wrote, in whole or in part
- Collaborating with someone else to the extent that your submissions are identifiably very similar, in whole or in part
- Turning in a submission with the wrong name on it

What is not cheating? Here are some examples:

- Talking to someone in general terms about concepts involved in an assignment
- Asking someone for help with a specific error message or bug in your program
- Getting help with the specifics of language syntax or citation style
- Utilizing information given to you by the instructor

Any assistance must be clearly explained in the comments at the beginning of your submission. If you have any questions about this, please ask or review the policies relating to the Honor Code.

Absences on Days of Exams:

Test "make-ups" will only be allowed if arrangements have been made prior to the scheduled time. If you are sick the day of the test, please e-mail me or leave a message on my phone before the scheduled time, and we can make arrangements when you return.

3.2. Important Dates[4]:

DATE	DAY	DESCRIPTION
4 January	Tuesday	Last day to deposit for 2022 spring semester
11 January	Tuesday	Classes begin
17 January	Monday	MLK Day - no classes
18 January	Tuesday	Last day to add a class

4 Academic calendar sent by the Provost, Melissa Taverner.

DATE	DAY	DESCRIPTION
25 January	Tuesday	Last day to drop without record of a course
		Last day to declare a course pass-fail
		Deadline for removal of incompletes
19-27 March	Saturday-Sunday	Spring break
15-18 April	Friday-Monday	Easter break
4 May	Wednesday	Last day of classes
5-10 May	Thursday-Tuesday	Final exams
10 May	Tuesday	Senior grades due by noon
18 May	Wednesday	All grades due by noon

3.3. Schedule and session content

Changes are possible - an updated schedule with is available.

DATE	ASSIGNMENT	TEXTBOOK CHAPTER	TEST
Wed-12-Jan			
Fri-14-Jan		1 Introducing C	Quiz 1
Wed-19-Jan	GitHub Hello World		
Fri-21-Jan	Emacs online tutorial		Quiz 2
Mon-24-Jan	Program 1	2 C Fundamentals	
Wed-26-Jan			
Fri-28-Jan			Quiz 3
Mon-31-Jan	Program 2	3 Input/Output	
Wed-02-Feb			
Fri-04-Feb			Test 1
Mon-07-Feb	Program 3	4 Expressions	
Wed-09-Feb			
Fri-11-Feb			Quiz 4

DATE	ASSIGNMENT	TEXTBOOK CHAPTER	TEST
Mon-14-Feb	Program 4	5 Selection Statements	
Wed-16-Feb			
Fri-18-Feb			Quiz 5
Mon-21-Feb	Program 5	6 Loops	
Wed-23-Feb			
Fri-25-Feb			Test 2
Mon-28-Feb	Program 6	7 Basic types	
Wed-02-Mar			
Fri-04-Mar			Quiz 6
Mon-07-Mar	Program 7	8 Arrays	
Wed-09-Mar			
Fri-11-Mar			Quiz 7
Mon-14-Mar	Program 8	9 Functions	
Wed-16-Mar			
Fri-18-Mar			Quiz 8
Mon-28-Mar	Program 9	10 Program Organization	
Wed-30-Mar			
Fri-01-Apr			Test 3
Mon-04-Apr	Program 10	11 Pointers	
Wed-06-Apr			
Fri-08-Apr			Quiz 9
Mon-11-Apr	Program 11	12 Pointers and Arrays	
Wed-13-Apr			Quiz 10

DATE	ASSIGNMENT	TEXTBOOK CHAPTER	TEST
Wed-20-Apr	Program 12	13 Strings	
Fri-22-Apr			Quiz 11
Mon-25-Apr	Program 13	14 The Preprocessor	
Wed-27-Apr			
Fri-29-Apr			Test 4
Mon-02-May		15 Writing Large Programs	
Wed-04-May			Quiz 12

4. References

King (2008). C Programming (2nd ed). Norton.

Steinhart (2019). The Secret Life of Programs. NoStarch.