CSC 100.01 - Introduction to Programming, Spring 2023 Syllabus

Marcus Birkenkrahe

January 10, 2023

1 General Course Information

- Meeting Times: Monday/Wednesday/Friday, 15:00-15:50 hrs

- Meeting place: Lyon Building Room 104 (computer lab)

- Professor: Marcus Birkenkrahe

- Office: Derby Science Building 210

- Phone: (870) 307-7254 (office) / (501) 422-4725 (private)

- Office hours: Mon/Wed/Fri 16:15-16:45, Tue/Thu 16:00-16:30

- Textbook: King (2008). C Programming - A Modern Approach. New York: Norton. Online: knking.com

2 Standard and course policies

- **Standard Lyon College Policies** are incorporated into this syllabus and can be found at: lyon.edu/standard-course-policies.

- The **Assignments and Honor Code** and the **Attendance Policy** are incorporated into this syllabus also and can be found at: tinyurl.com/LyonPolicy.

3 Objectives

This course introduces you to programming using C. We cover C++ as an extension. C is a system programming language of pure power: it enables

you to converse with the computer at a level unknown to users other high level languages many of which come from C. You also learn about: compilers, working on the command line, text editors Emacs, using C for Internet of Things (IoT) devices, cybersecurity, using pseudocode and process modeling. You get a foundation in critical thinking in concert with one of the three currently most popular languages (the other two, according to the TIOBE index, are Python and Java). You'll learn some great tools: we use the "hacker's editor" Emacs, the world's foremost software engineering platform, GitHub, and BPMN for process modeling and pseudo code generation.

4   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)

- Research and present a project as a team

- Know how to effectively present assignment results

- Be ready for "Data stuctures with C++" (CSC 240)

- Be ready for "Algorithms" (CSC 265)

- Improve data literacy

5   Course requirements

- No prior knowledge required

- Curiosity is essential

- Experience with computers is useful but not critical

6 Grading system

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

REQUIREMENT	UNITS	PPU	TOTAL	% of TOTAL
Final exam	1	100	100	25.
Programming assignments	10	10	100	25.
Class practice	10	10	100	25.
Multiple-choice tests	10	10	100	25.
Project sprint reviews	0	0	0	0
TOTAL			400	100.

7 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 - very good)
95-90	A-	
89-86	B+	
85-80	B	B (passed - good)
79-76	B-	
75-70	C+	
69-66	C	C (passed - satisfactory)
65-60	C-	
59-56	D+	
55-50	D	D (passed)
49-0	F	F (failed)

8 Schedule and session content

For **important dates**, see the 2022-2023 Academic Calendar at: catalog.lyon.edu/202223-academic-calendar

WK	DATE	ASSIGNMENT	TEXTBOOK CHAPTER	TEST
1	Jan 11,13	Emacs Tutorial		
2	Jan 18,20	Program 1	1 Introducing C	1
3	Jan 23,25,27	Program 2	2 C Fundamentals	2
4	Jan 30, Feb 1,3	Program 3	3 Input/Output	3
5	Feb 6,8,10	Sprint Rev 1	4 Expressions	
6	Feb 13,15,17	Program 4	5 Selection	4
7	Feb 20,22,24	Program 5	6 Loops	5
8	Mar 1,3	Program 6	7 Basic types	6
9	Mar 6,8,10	Sprint Rev 2	8 Arrays	
10	Mar 13,15,17	Program 7	9 Functions	7
11	Mar 27,19,31	Program 8	11 Pointers	8
12	Apr 3,5	Program 9	12 Pointers & Arrays	9
13	Apr 10,12,14	Sprint Rev 3	13 Strings	10
14	Apr 17,19,21	Program 10	14 The Preprocessor	
15	Apr 24,26,28	Sprint Rev 4	C vs. C++	
16	May 1, 3			