

University of Lethbridge
Department of Mathematics and Computer Science

Computer Science 1620 – Fundamentals of Programming I
Course Outline – SPRING 2021

LOCATION: Course offered online.

INSTRUCTORS: Robert Benkoczi (office C556)
`robert.benkoczi@uleth.ca`
(403)-329-2298
John Emerson (tutorials)
`john.emerson@uleth.ca`
Arnob Bairagi (tutorials)
`arnob.bairagi@uleth.ca`

TEXT/RESOURCES:

- *Programming in C++* by Frank Vahid and Roman Lysecky (required), zyBook ISBN: 978-1-394-07741-0.
To access (cost 50 USD, *discounted*):
 1. Sign in or create an account at `learn.zybooks.com`
 2. Enter zyBook code: **ULETHCPSC1620BenkocziSpring2021**
 3. SubscribePlease enter your valid UofL student ID on the registration page so that your work be assigned to you for the final grade.
- `cppreference.com`: use for reference, (recommended).
- `https://www.cs.uleth.ca/libcommon/Online_Resources/`: help to set-up your programming environment at home (useful for submitting your project).

GRADING SCHEME:	Participation activities (PA in your text)	5%
	Challenge activities (CA in your text)	5%
	Programming assignments (approx 6-8, labs in your text)	40%
	Moodle Tests (4)	40%
	Project	10%

GRADE DISTRIBUTION: This information is provided as a guideline only and may be revised in this offering. Minimum percentages for each letter grade are:

A+	95	B+	80	C+	68	D+	55
A	90	B	76	C	64	D	50
A-	84	B-	72	C-	60	F	< 50

SCHEDULE:

(as time permits):

- 1) Introduction to C++, hello world, basic output (2 lect).
- 2) Branches (3 lect)
- 3) Loops (3 lect)
- 4) Arrays and vectors (2 lect)
- 5) User defined functions (2 lect)
- 6) Objects and classes (1 lect)
- 7) Pointers and dynamic memory (1 lect)
- 8) Input, output, files, and string streams (2 lect)
- 9) Recursive functions (2 lect)
- 10) Exceptions (1 lect)
- 11) Various containers: list, pair, map. (1 lect)
- 12) last 2 lectures chosen based on student interest. Possible topics: sorting, structs, multiple arrays, command line arguments, makefiles, modules and multiple source files.

HOW TO STUDY:

- Most of your work (except for the tests and project) will be carried out on the zyBooks platform. You will need a browser and Internet access. No other setup will be needed, so you can focus on learning C++ for the first couple of months.
- Read the corresponding sections and complete the practice activities (PAs) assigned for each lecture **BEFORE THE LECTURE**. ZyBook assignments for PAs are given with suitable due dates. A schedule of lectures is available on Moodle.
- Complete the Challenge activities (CAs) from the zyBook, by the end of the week. ZyBook assignments for CAs with appropriate due dates will be given.
- Complete the Assignments comprising zyBook lab activities. These will be due usually by Tuesday on the following week. ZyBook assignments with appropriate due dates will be given.
- During lectures (on MSTeams): your instructor will answer any questions you may have about the topics assigned from the zyBook. We will also discuss additional examples using jupyter notebooks with the CLing C++ kernel. See jupyter.org. Setting up your own jupyter server will not be necessary.
- No slides or video lectures will be available, but you may record the MSTeams lecture meetings if you wish.

COMMENTS:

- Lectures will take place during scheduled time, on MSTeams. You are automatically added to the CPSC 1620 MSTeams team.

- Tests are synchronous Moodle quizzes, taken in the first 30 min of a Thursday’s lecture time.
- The project is a standalone application you develop on your home computer and you submit using the gitlab server at gitlab.cs.uleth.ca. VPN is needed to access the gitlab server. Comprehensive setup instructions are available.
- Work must be submitted at the scheduled time; no provision is made for make-up tests or late assignments, except for medical reasons or emergencies. Missed assignments receive 0 points.
- Requests for remarking tests and assignments are accepted only in writing *no later than one week from the date your graded work was returned*. On the request: identify the assignment, briefly explain why you believe the mark is incorrect, date and sign. Note that if your work is remarked, your grade may go up, down, or remain unchanged.
- Plagiarism can lead to severe penalties – please consult the calendar.

LINKS

- MS Teams: teams.microsoft.com (login using your U of L credentials).
- Moodle: <http://moodle.uleth.ca/>
- Instructor’s page including contact information: <http://www.cs.uleth.ca/~benkoczi/>