CAMOSUN COLLEGE
Trades and Technology
Computer Science

ICS 214 Programming from C to C++
Fall Term 2020

COURSE OUTLINE

The calendar description is available on the web @ camosun.ca/learn/calendar/current/web/ics.html

Ω *Please note: This outline will not be kept indefinitely. It is recommended students keep this outline for their records, especially to assist in transfer credit to post-secondary institutions.*

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1. Instructor Information

(a) Instructor	Chris Newstead	
(b) Office hours	Email to schedule an appointment (or just drop by during scheduled class or lab times).	
(c) Location	online.	
(d) Phone	Better to email	**Alternative:**
(e) E-mail	newsteadc@camosun.bc.ca	
(f) Website	Course web site is on D2L as ICS-214 (Programming from C to C++)	

2. Intended Learning Outcomes

Upon successful completion of this course, students will be able to

- analyze and design strategies for solving basic programming problems.
- use primitive data types, selection statements, loops, and functions to write programs.
- develop programs to solve a variety of problems in math, science, business, and games.
- use the step-wise refinement approach.
- use arrays to store and process data.
- use an IDE to develop programs.
- use the IDE debugger to step through code and fix issues
- understand OO concepts: encapsulation, inheritance, polymorphism, interfaces, abstract classes
- develop event-driven programs
- use file I/O and handle exceptions
- design and implement OO programs

3. Required Materials

(a) Texts
We'll be following a set of online tutorials at Learncpp.com

(b) Other
A computer capable of running MS Visual Studio 2019 (or access to one), using Linux or MacOS is possible, but may require a bit of self-directed setup.

4. Course Content and Schedule

A course schedule can be found on D2L in Content: Additional Schedules. Quiz dates will be set as we progress through the course.

This **tentative** schedule outlines weekly topics. The schedule is subject to change.

1. Course Intro,
2. C++ Basics, Functions and files
3. Debugging C++ Programs, Fundamental Data Types
4. Operators, Variable Scope and More Types
5. Control Flow, Arrays, Strings, Pointers, References
6. Functions
7. Object Oriented Programming
8. Operator Overloading
9. Object Relationships
10. Inheritance
11. Virtual Functions
12. Templates
13. Exceptions

5. Basis of Student Assessment (Weighting)

(a) Labs (40%)

Must complete all labs.
Must achieve a minimum average of 55% on the labs.

Late labs are subjected to an 20% penalty per week, except by the instructor's prior written permission or in the presence of a dire and documented short-term medical or family emergency. Labs are due midnight one week after they are assigned, and grading is done based on a sample run and visual inspection of the code.

(b) Quizzes (20%)
Online quizzes based on material covered in modules will be announced throughout the term a week prior to when they will be given.

(c) Exams (Midterm 15%, Final 25%)
Must achieve a minimum average of 55% on quizzes/tests/midterm.
Must achieve a minimum average 55% on the Final exam to pass the course.

6. Grading System

☐ Standard Grading System (GPA)

☐ Competency Based Grading System

7. Recommended Materials to Assist Students to Succeed Throughout the Course

We will be using a copy of Microsoft Visual Studio 2019 for in class work and labs.
If you have a strong preference for Linux or Mac, the material is do-able, but I am not able to support issues (outside the scope of coding) with the other platforms.

8. College Supports, Services and Policies

Immediate, Urgent, or Emergency Support

If you or someone you know requires immediate, urgent, or emergency support (e.g. illness, injury, thoughts of suicide, sexual assault, etc.), **SEEK HELP**. Resource contacts @ http://camosun.ca/about/mental-health/emergency.html or http://camosun.ca/services/sexual-violence/get-support.html#urgent

Department Policies:

Grade review: You have 7 days after marks are posted to review with your instructor.

Academic Dishonesty:

1st violation: minus the weight of the deliverable and a note on your departmental file.

2nd violation: F in the course

3rd violation: Student Conduct Policy E-2.5 is applied

Missed Examinations/Quizzes: If a student misses a quiz or an exam, a mark of zero will be assigned unless there are extenuating circumstances. In such cases, the proportion of grade assigned to the missed quiz or exam will be added to the proportion assigned to the final exam. The final exam will be held during exam week. NO consideration will be given to any student wishing to write the exam at any other time than that assigned.

Electronic Devices: The school's policy regarding electronic devices is that any student who has a cell phone or other unauthorized electronic device (ie. ipad, laptop, playbook,

etc.) on their person or around their desk during an exam will be guilty of cheating and will a grade of "F" for the course.

College Services

Camosun offers a variety of health and academic support services, including counselling, dental, disability resource centre, help centre, learning skills, sexual violence support & education, library, and writing centre. For more information on each of these services, visit the **STUDENT SERVICES** link on the College website at http://camosun.ca/

College Policies

Camosun strives to provide clear, transparent, and easily accessible policies that exemplify the college's commitment to life-changing learning. It is the student's responsibility to become familiar with the content of College policies. Policies are available on the College website at http://camosun.ca/about/policies/. Education and academic policies include, but are not limited to, Academic Progress, Admission, Course Withdrawals, Standards for Awarding Credentials, Involuntary Health and Safety Leave of Absence, Prior Learning Assessment, Medical/Compassionate Withdrawal, Sexual Violence and Misconduct, Student Ancillary Fees, Student Appeals, Student Conduct, and Student Penalties and Fines.

A. GRADING SYSTEMS *http://www.camosun.bc.ca/policies/policies.php*

The following two grading systems are used at Camosun College:

1. Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
90-100	A+		9
85-89	A		8
80-84	A-		7
77-79	B+		6
73-76	B		5
70-72	B-		4
65-69	C+		3
60-64	C		2
50-59	D		1
0-49	F	Minimum level has not been achieved.	0

2. Competency Based Grading System (Non GPA)

This grading system is based on satisfactory acquisition of defined skills or successful completion of the course learning outcomes

Grade	Description
COM	The student has met the goals, criteria, or competencies established for this course, practicum or field placement.

DST	The student has met and exceeded, above and beyond expectation, the goals, criteria, or competencies established for this course, practicum or field placement.
NC	The student has not met the goals, criteria or competencies established for this course, practicum or field placement.

B. Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy at http://www.camosun.bc.ca/policies/E-1.5.pdf for information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	*Incomplete*: A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.
IP	*In progress*: A temporary grade assigned for courses that are designed to have an anticipated enrollment that extends beyond one term. No more than two IP grades will be assigned for the same course.
CW	*Compulsory Withdrawal*: A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement.