



**CAMOSUN COLLEGE**  
**Trades and Technology**  
**Computer Science**

**ICS114**  
**Algorithms and Programming**  
**Autumn 2020**

**COURSE OUTLINE**

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The calendar description is available on the web:

<http://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

<b>(a) Instructor</b>	Lynda E. Robbins, PhD
<b>(b) Communication</b>	- email (robbinsl@camosun.bc.ca), - Microsoft Teams – Please download the software to your computer/phone. I will send you an invitation once we have it set up. <a href="https://www.microsoft.com/en-ca/microsoft-365/microsoft-teams/">(https://www.microsoft.com/en-ca/microsoft-365/microsoft-teams/)</a>
<b>(d) Website</b>	Camosun d2l (Desire2Learn) Learning Management Software <a href="https://idp.camosun.ca/idp/Authn/UserPassword">https://idp.camosun.ca/idp/Authn/UserPassword</a>

## 2. Intended Learning Outcomes

Upon successful completion of this course, a student will be able to:

- Solve abstract problems using software design methodology;
- Design an algorithm to solve a problem using problem decomposition and step-wise refinement;
- Trace the execution of object-oriented code to validate its correctness;
- Apply and explain object-oriented techniques including the creation of objects, application of inheritance, information hiding, encapsulation, scope and pass-by-value and pass-by-reference;
- Design, implement, test and debug simple programs in an object-orientated language using appropriate arithmetic and logical operations, conditions and iterative control structures, and data types;
- Apply problem-solving skills and provide a foundation for advanced programming courses;
- Use written, oral, and electronic communication to convey technical information effectively; and

- Apply accepted standards to ensure security, privacy, and integrity of data while recognizing the ethical, legal and social implications of computing.

### 3. Required Materials

Mandatory Text: This course uses an online, interactive textbook called a zyBook. We have arranged a special deal with zyBooks this term such that there is no charge for this ICS114 zyBook! Here is the algorithm to obtain access to your zyBook:

1. Sign in or create an account at [learn.zybooks.com](http://learn.zybooks.com)
2. Enter zyBook code

**CAMOSUNICS114RobbinsFall2020**

3. Subscribe

### 4. Course Content and Schedule

The following is a *tentative* schedule of the order in which topics will be covered. *Please note this is subject to change as the term progresses.*

Week Number	Week of	Topic
1	September 7	Introduction
2	September 14	Algorithms
3	September 21	Algorithms
4	September 28	Java Syntax: Selection, Loops
5	October 5	Arrays
6	October 12 – no classes/labs <i>Thanksgiving</i> <i>Monday Oct 12</i>	Java API, Methods
7	October 19	<b>Midterm</b>
8	October 26	Methods
9	November 2	Programmer Defined Classes
10	November 9 – no classes/labs <i>Remembrance Day</i> <i>Wednesday Nov 11</i>	more Methods
11	November 16	more Programmer Defined Classes
12	November 23	OOP
13	November 30	Inheritance
14	December 7	Wrapper Classes

## 5. Basis of Student Assessment (Weighting)

ITEM	Weight (%)	Details
zyBook**	10	Students are expected to work on the zyBook activities on their own time, however, some class/lab time may be devoted to zyBook activities. Sections labelled as "Optional" do not contribute to this mark. Please note that most (but not all) "Optional" sections will become mandatory as the course proceeds. You are welcome to work ahead and complete the "Optional Sections" if you wish.
Labs/Assignments***	20	Students are expected to complete lab exercises during their assigned, synchronous, lab times. Assignments will require work to be done outside of class/lab times.
Midterm Test*	15	The midterm test will be held during lab times during the week of November 4.
Quizzes*	10	Unannounced quizzes will be held during labs. The lowest quiz mark will be dropped. There are no makeup quizzes. Quizzes that are not written will receive a mark of 0. (Since the lowest quiz mark is dropped, students are able to miss one quiz without penalty.)
Terminology Record	5	Each student will create their own reference document for the terminology used in the course. This will help you with your studying and serve as a reference for the future.
Final Exam*	40	The final exam is scheduled by Camosun College. Be sure to check the date before making travel arrangements.

### NOTES:

1. \*A weighted average of at least 55% must be achieved on the quizzes, midterm, and final exam to pass the course.
2. \*A weighted average of at least 60% must be achieved on the quizzes, midterm, and final exam to continue in the ICS program.
3. \*\*A mark of 85% must be achieved on the mandatory zyBook participation and challenge exercises to pass the course.
4. \*\*\*An average mark of 85% must be achieved on assignments to pass the course.
5. Late work is not accepted except in exceptional circumstances. Please contact your instructor before the due date.

## 6. Grading System

- Standard Grading System (GPA)
- Competency Based Grading System

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

Advice:

1. Keep up to date with the zyBook and lecture materials daily. This will help you with the unannounced quizzes!
2. If you are having difficulties with the course, please contact your instructor sooner rather than later.
3. Programming is a skill. To become a good programmer you must practice, practice, practice every day.
4. Be sure you do your own work. This course utilizes automated and manual checking mechanisms for plagiarism. Please see [Camosun's academic honesty guidelines](#).

## 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:

- 1<sup>st</sup> violation: minus the weight of the deliverable and a note on your departmental file.
- 2<sup>nd</sup> violation: F in the course
- 3<sup>rd</sup> 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 receive 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	<i>Incomplete:</i> 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	<i>In progress:</i> 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	<i>Compulsory Withdrawal:</i> 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.