



CAMOSUN COLLEGE
Trades & Technology
Computer Science

COMP 166
Programming 1 for Engineers
Winter 2021

COURSE OUTLINE

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

1. Instructor Information

(a) Instructor	Dale Shpak
(b) Office hours	TBA
(c) Location	TEC 253
(d) Phone	Alternative: _____
(e) E-mail	shpak@camosun.ca
(f) Website	https://deepblue.camosun.bc.ca/shpak/comp166/2021w/

2. Intended Learning Outcomes

Upon completion of the course, students will be able to:

1. prepare an algorithm for solving a problem;
2. use functions and parameters appropriately and correctly;
3. define, reference and modify one-dimensional arrays correctly;
4. access, define and modify character string arrays correctly;
5. read, write and calculate with integer and real data items;
6. use functions from selected libraries;
7. use effectively the computer environment for program development;
8. write program documentation appropriately;
9. write a 200-line program of some logical complexity involving input and output, and using a disciplined style; and
10. test and debug code.

3. Required Materials

- (a) Suggested Texts
R. Thareja, "Introduction to C Programming", Oxford, 2nd Ed., 2015. Or
R. Thareja, "Programming in C", Oxford, 2018.

4. Course Content and Schedule

Week		Reference	Labs & Exams
1	Motivation, Algorithms, C, CPU, Compilation, IDE	Intro DJS	
2	Data Types, Arithmetic Operators, Expressions, Precedence, Logical Operators, Console I/O	Ch 2	Lab 1
3	Selection, Repetition, Library Functions	Ch 3	Lab 2
4	Software Complexity, Modular Programming, Functions	Ch 4	Lab 3
5	Multi-File Programs, Header Files, File I/O, Command-Line Arguments	Ch 2, 9	Lab 4
6	Arrays, C Strings, ASCII	Ch 5, 6	Lab 5
7	Pointers, Arrays, and Memory Addresses	Ch 7	Lab 6, Quiz 1
8	Coercion, Pointers and Functions, Review	Ch 2, 7	Midterm
9	Typedef, Structures, Arrays	Ch 8	Lab 7
10	Storage Classes, Stack and Heap, Recursion	Ch 4	Lab 8
11	Complex Variables, Bitwise operators, Bitfields	Ch 8	Lab 9, Quiz 2
12	Dynamic Memory Allocation, Dynamic Data Structures	Ch 7	Lab 10
13	Linked Lists	Ch 11	
14	Review		

5. Basis of Student Assessment (Weighting)

(Should be directly linked to learning outcomes.)

(a) Assignments
30%

(b) Quizzes
10%

(c) Exams
Midterm 20%
Final 40%

(d) Other (e.g. Project, Attendance, Group Work)
N/A

6. Grading System

Standard Grading System (GPA)

Competency Based Grading System

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

Additional resources at <https://deepblue.camosun.bc.ca/shpak/comp166/2021w/>

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>

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://camosun.ca/about/policies/index.html>

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://camosun.ca/about/policies/index.html> 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.