COURSE SYLLABUS

COURSE TITLE: COMP166 – Programming 1 for Engineers

CLASS SECTION: 001A/001B

TERM: Fall 2021

COURSE CREDITS: 3

DELIVERY METHOD(S):   Lecture, Lab

For COVID-19 information please visit https://legacy.camosun.ca/covid19/index.html.

Camosun College campuses are located on the traditional territories of the Lək̓ʷəŋən and W̱SÁNEĆ peoples. We acknowledge their welcome and graciousness to the students who seek knowledge here.
Learn more about Camosun's Territorial Acknowledgement.

Camosun College requires mandatory attendance for the first class meeting of each course. If you do not attend, and do not provide your instructor with a reasonable explanation in advance, you will be removed from the course and the space offered to the next waitlisted student.

INSTRUCTOR DETAILS

NAME: Guenter Kiechle

EMAIL: kiechleg@camosun.bc.ca

OFFICE: Ewing 308

HOURS: Tuesdays from 2pm to 3pm; additional hours by appointment if required

As your course instructor, I endeavour to provide an inclusive learning environment. However, if you experience barriers to learning in this course, do not hesitate to discuss them with me. Camosun College is committed to identifying and removing institutional and social barriers that prevent access and impede success.

CALENDAR DESCRIPTION

As students are taught principles of structured programming, they will see concepts illustrated with examples and do problems from science and engineering disciplines. Topics include: elementary features of the programming language used, such as data types and structures, control flow, input/output, functions; the programming environment; problem solving process.

PREREQUISITE(S):   None
CO-REQUISITE(S):   None
EXCLUSION(S):   None

COURSE LEARNING OUTCOMES / OBJECTIVES

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

- Prepare an algorithm for solving a problem
- Use functions and parameters to modularize code
- Define, reference, and modify one and two-dimensional arrays

- Define, reference, and modify character strings
- Read, write, and calculate with integer and floating-point data
- Use functions from the standard C libraries
- Use the computer environment effectively for program development
- Document code using structured inline comments
- Write a program of some logical complexity involving input and output
- Test and debug code

REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

- Materials on the D2L course page: presentation slides for lectures, lab assignment instructions for labs, etc.
  see https://online.camosun.ca/d2l/home/204751
- Optional: C/C++ Programming: Best Practices, by Dale Shpak, available on D2L
- Optional: Modern C, 2nd Edition, by Jens Gustedt, Manning, ISBN 9781617295812, free version available at https://gforge.inria.fr/frs/download.php/latestfile/5298/ModernC.pdf
- Optional: Engineering Problem Solving with C, 4th Edition, by Etter, Pearson
- Optional: C Programming Language, 2nd Edition, by Kernighan and Ritchie, Prentice Hall PTG

COURSE SCHEDULE, TOPICS, AND ASSOCIATED PREPARATION / ACTIVITY / EVALUATION

Please look up the lecture and lab schedule at http://my.camosun.ca for detailed information about class hours and locations and consult the calendar tool in D2L frequently to check for any updates.
The following schedule and course components are subject to change with reasonable advance notice, as deemed appropriate by the instructor.

WEEK or DATE RANGE	ACTIVITY or TOPIC	Lab
Week 1	Course overview, motivation for learning C	-
Week 2	Computation fundamentals, binary data, compilation	Development Tools
Week 3	C language structure, literals, variables and assignment, arithmetic operators, basic output	Variables and Operators
Week 4	Selection (if, else, switch), logical operators, conditional expressions	-
Week 5	Arrays, pointers, command-line arguments	Conditional Logic
Week 6	Repetition (for, while, do-while) increment and decrement, operators, assignment operators	-
Week 7	Mid-term review	Repetition
Week 8	Functions, pass by value/reference, the call stack	-
Week 9	Header files and includes, standard C libraries, file and stream IO	Functions

WEEK or DATE RANGE	ACTIVITY or TOPIC	Lab
Week 10	ASCII and Unicode, string functions, documentation with Doxygen, recursion	-
Week 11	C preprocessor in depth, dynamic memory	File I/O
Week 12	Structs, unions	-
Week 13	Linking and make	Dynamic Memory
Week 14	Final review	-

Students registered with the Centre for Accessible Learning (CAL) who complete quizzes, tests, and exams with academic accommodations have booking procedures and deadlines with CAL where advanced notice is required. Deadlines scan be reviewed on the CAL exams page. http://camosun.ca/services/accessible-learning/exams.html

EVALUATION OF LEARNING

DESCRIPTION		WEIGHTING
Lab assignments		35%
Quizzes		10%
Mid-term exam		20%
Final exam		30%
Attendance and participation		5%
	TOTAL	100%

If you have a concern about a grade you have received for an evaluation, please come and see me as soon as possible. Refer to the Grade Review and Appeals policy for more information. http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf

COURSE GUIDELINES & EXPECTATIONS

Lecture and Lab Attendance

To get the most out of this course, students are expected to attend all classes and be on time. It is your responsibility to acquire all information given during a class missed, including notes, hand-outs, changed exam dates etc.

Late Assignments and Minimum Requirements

All assignments must be handed in by the time indicated. Late assignments are subjected to penalties, except by the instructor's prior written permission or in the presence of a dire and documented short-term medical or family emergency.

Students must achieve

- a minimum average of 50% on labs assignments and
- a minimum of 50% on the final exam

to pass the course.

No leaving during any examination before the first half of the exam period unless an accommodation in place.

SCHOOL OR DEPARTMENTAL INFORMATION

Supplemental department policies:

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

Academic Integrity Violations:

- 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, project or an exam, a mark of zero will be assigned unless there are extenuating circumstances. You must provide a note from a medical practitioner (Doctor, Nurse, Psychologist, Counsellor, etc.) 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.

STUDENT RESPONSIBILITY

Enrolment at Camosun assumes that the student will become a responsible member of the College community. As such, each student will display a positive work ethic, assist in the preservation of College property, and assume responsibility for their education by researching academic requirements and policies; demonstrating courtesy and respect toward others; and respecting expectations concerning attendance, assignments, deadlines, and appointments.

SUPPORTS AND SERVICES FOR STUDENTS

Camosun College offers a number of services to help you succeed in and out of the classroom. For a detailed overview of the supports and services visit http://camosun.ca/students/.

Support Service	Website
Academic Advising	http://camosun.ca/advising
Accessible Learning	http://camosun.ca/accessible-learning
Counselling	http://camosun.ca/counselling

Support Service	Website
Career Services	http://camosun.ca/coop
Financial Aid and Awards	http://camosun.ca/financialaid
Help Centres (Math/English/Science)	http://camosun.ca/help-centres
Indigenous Student Support	http://camosun.ca/indigenous
International Student Support	http://camosun.ca/international/
Learning Skills	http://camosun.ca/learningskills
Library	http://camosun.ca/services/library/
Office of Student Support	http://camosun.ca/oss
Ombudsperson	http://camosun.ca/ombuds
Registration	http://camosun.ca/registration
Technology Support	http://camosun.ca/its
Writing Centre	http://camosun.ca/writing-centre

If you have a mental health concern, please contact Counselling to arrange an appointment as soon as possible. Counselling sessions are available at both campuses during business hours. If you need urgent support after-hours, please contact the Vancouver Island Crisis Line at 1-888-494-3888 or call 911.

COLLEGE-WIDE POLICIES, PROCEDURES, REQUIREMENTS, AND STANDARDS

Academic Accommodations for Students with Disabilities
The College is committed to providing appropriate and reasonable academic accommodations to students with disabilities (i.e. physical, depression, learning, etc). If you have a disability, the Centre for Accessible Learning (CAL) can help you document your needs, and where disability-related barriers to access in your courses exist, create an accommodation plan. By making a plan through CAL, you can ensure you have the appropriate academic accommodations you need without disclosing your diagnosis or condition to course instructors. Please visit the CAL website for contacts and to learn how to get started:
http://camosun.ca/services/accessible-learning/

Academic Integrity
Please visit http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.13.pdf for policy regarding academic expectations and details for addressing and resolving matters of academic misconduct.

Academic Progress

Please visit http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.1.pdf for further details on how Camosun College monitors students' academic progress and what steps can be taken if a student is at risk of not meeting the College's academic progress standards.

Course Withdrawals Policy

Please visit http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.2.pdf for further details about course withdrawals. For deadline for fees, course drop dates, and tuition refund, please visit http://camosun.ca/learn/fees/#deadlines.

Grading Policy

Please visit http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf for further details about grading.

Grade Review and Appeals

Please visit http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf for policy relating to requests for review and appeal of grades.

Mandatory Attendance for First Class Meeting of Each Course

Camosun College requires mandatory attendance for the first class meeting of each course. If you do not attend, and do not provide your instructor with a reasonable reason in advance, you will be removed from the course and the space offered to the next waitlisted student. For more information, please see the "Attendance" section under "Registration Policies and Procedures" (http://camosun.ca/learn/calendar/current/procedures.html) and the Grading Policy at http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf.

Medical / Compassionate Withdrawals

Students who are incapacitated and unable to complete or succeed in their studies by virtue of serious and demonstrated exceptional circumstances may be eligible for a medical/compassionate withdrawal. Please visit http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.8.pdf to learn more about the process involved in a medical/compassionate withdrawal.

Sexual Violence and Misconduct

Camosun is committed to creating a campus culture of safety, respect, and consent. Camosun's Office of Student Support is responsible for offering support to students impacted by sexual violence. Regardless of when or where the sexual violence or misconduct occurred, students can access support at Camosun. The Office of Student Support will make sure students have a safe and private place to talk and will help them understand what supports are available and their options for next steps. The Office of Student Support respects a student's right to choose what is right for them. For more information see Camosun's Sexualized Violence and Misconduct Policy: http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.9.pdf and camosun.ca/sexual-violence. To contact the Office of Student Support: oss@camosun.ca or by phone: 250-370-3046 or 250-3703841

Camosun College is committed to building the academic competency of all students, seeks to empower students to become agents of their own learning, and promotes academic belonging for everyone. Camosun also expects that all students to conduct themselves in a manner that contributes to a positive, supportive, and safe learning environment. Please review Camosun College's Student Misconduct Policy at http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf to understand the College's expectations of academic integrity and student behavioural conduct.

Changes to this Syllabus: Every effort has been made to ensure that information in this syllabus is accurate at the time of publication. The College reserves the right to change courses if it becomes necessary so that course content remains relevant. In such cases, the instructor will give the students clear and timely notice of the changes.