

COURSE SYLLABUS



COURSE TITLE:	Server +
CLASS SECTION:	CSNT-132-X01
TERM:	Winter 2024
COURSE CREDITS:	3
DELIVERY METHOD(S):	in person

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

The COVID-19 pandemic has presented many challenges, and Camosun College is committed to helping you safely complete your education. Following guidelines from the Provincial Health Officer, WorkSafe BC, and the B.C. Government to ensure the health and wellbeing of students and employees, Camosun College is providing you with every possible protection to keep you safe. Our measures include COVID Training for students and employees, health checks, infection control protocols including sanitization of spaces, PPE and ensuring physical distancing. For details on these precautions please follow this link: <http://camosun.ca/covid19/faq/covid-faqs-students.html>. However, if you're at all uncomfortable being on campus, please share your concerns with your Instructor. If needed, alternatives will be discussed.

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:	Ian Cameron
EMAIL:	cameron@camosun.ca
OFFICE:	TEC 211
HOURS:	TBA

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

Students will gain the knowledge and skills required to install, configure, and manage server hardware and server operating systems such as Windows Server. Students will learn how to implement proper server hardening and security controls; successfully troubleshoot common server problems and demonstrate an understanding of key disaster recovery, high-availability, and backup concepts. Students will be prepared to take the CompTIA Server+ certification exam.

PREREQUISITE(S): CSNT110, CSNT120, CSNT130

CO-REQUISITE(S):

EXCLUSION(S):

COURSE LEARNING OUTCOMES / OBJECTIVES

Identify and install the different server roles;
Describe the operation of server-based networks;
Install and configure network operating systems;
Perform remote server maintenance;
Configure client computers and user accounts;
Configure and apply group policies;
Configure and manage virtual servers and workstations; and
Describe and practice disaster recovery methods for servers.

REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

No printed text required
Access to CompTIA Server + Online Content

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

The following schedule and course components are subject to change with reasonable advance notice, as deemed appropriate by the instructor.

Week 1 – Introduction

- **Server Overview**
- **Accessing the Course Material**

LABS

- **Lab - Introduction**
- **Exploring the Lab Environment (Lab 1)**

Week 2 – Lesson 1

Lesson 1: Understanding Server Administration Concepts

- **Topic 1A: Understand Server Administration Concepts**
- **Topic 1B: Understand Troubleshooting Methods**
- **Topic 1C: Manage Licenses**

LABS

- **Reporting Windows Server Specifications (Lab 02)**
- **Reporting Linux Server Specifications (Lab 03)**

Week 3 – Lesson 2

Lesson 2: Understanding Virtualization and Cloud Computing

- **Topic 2A: Understand Virtualization Concepts**
- **Topic 2B: Understanding Cloud Concepts**
- **Topic 2C: Understand On-Premises Versus Cloud Deployments**

LABS

- **Deploying a Hyper-V VM (Lab 04)**
- **Deploying a Docker Container (Lab 05)**

Week 4 – Lesson 3

Lesson 3: Understanding Physical and Network Security Concepts

- **Topic 3A: Understand Physical Security Concepts**
- **Topic 3B: Understand Network Security Concepts**

LABS

- **Auditing Network Services (Lab 06)**
- **Securing Network Traffic with IPSec (Lab 07)**

Week 5 – Lesson 4

Lesson 4: Managing Physical Assets

- **Topic 4A: Understand Asset Management Concepts**
- **Topic 4B: Manage Documentation**

LABS

- **Managing System Inventories (Lab 08)**
- **Monitoring Performance in Windows (Lab 09)**
- **Monitoring Performance in Linux (Lab 10)**

Week 6 – Lesson 5

Lesson 5: Managing Server Hardware

- **Topic 5A: Manage the Physical Server**
- **Topic 5B: Administer the Server and Storage**
- **Topic 5C: Troubleshoot Server Hardware**

LABS

- **Managing Event Logs in Windows (Lab 12)**
- **Managing Event Logs in Linux (Lab 13)**
- **APPLIED LAB 1 – Deploying and Monitoring Servers (Lab 11)**

Week 7 – READING BREAK – No Scheduled Classes

Week 8 – Lesson 6

Lesson 6: Configuring Storage Management

- **Topic 6A: Manage Storage**
- **Topic 6B: Troubleshoot Storage**

LABS

- **Configuring RAID Storage in Windows (Lab 14)**
- **Provisioning iSCSI Storage (Lab 15)**

Week 9 – Lesson 7

Lesson 7: Implementing Host Security Solutions

- **Topic 7A: Install an Operating System**
- **Topic 7B: Configure Storage**
- **Topic 7C: Configure Network Settings**
- **Topic 7D: Use Scripts to Configure Servers**

LABS

- **Deploying a Linux Application Server (Lab 16)**
- **Configuring Volumes in Linux (Lab 17)**
- **Managing Network Configurations (Lab 18)**
- **Developing Network Documentation Lab 19)**
- **Developing Administrative Bash Scripts (Lab 20)**
- **Developing Administrative PowerShell Scripts (Lab 21)**

Week 10 – Lesson 8

Lesson 8: Troubleshooting OS, Application, and Network Configurations

- **Topic 8A: Troubleshoot an OS and Applications**
- **Topic 8B: Troubleshoot Network Configurations**

LABS

- **Troubleshooting a Network Issue (Lab 23)**
- **APPLIED LAB 2 - Managing Storage and Networks (Lab 22)**

Week 11 – Lesson 9

Lesson 9: Managing Post-Installation Administrative Tasks

- **Topic 9A: Understand Secure Administration Practices**
- **Topic 9B: Manage Server Functions**
- **Topic 9C: Configure Server Hardening**

LABS

- **Auditing Accounts and Permissions in Windows (Lab 24)**
- **Configuring Server Roles (Lab 25)**
- **Configuring Administrative Interfaces (Lab 26)**
- **Managing Virtual Memory (Lab 27)**
- **Configuring Group Policy Objects (Lab 28)**
- **Analyzing Configuration Baselines (Lab 29)**

Week 12 – Lesson 10

Lesson 10: Managing Data Security

- **Topic 10A: Understand Data Security Concepts**
- **Topic 10B: Manage Data Security**
- **Topic 10C: Troubleshoot Data Security**

LABS

- **Configuring EFS and BitLocker (Lab 31)**
- **Troubleshooting a Security Issue (Lab 32)**
- **APPLIED LAB 3 – Troubleshooting Servers Scenario (Lab 30)**

Week 13 – Lesson 11

Lesson 11: Managing Service and Data Availability

- **Topic 11A: Manage Data Backup and Restore**
- **Topic 11B: Manage High Availability**
- **Topic 11C: Manage Disaster Recovery**

LABS

- **Configuring Backup Solutions on Windows Server (Lab 33)**
- **Configuring Backup Solutions on Linux (Lab 34)**
- **Configuring a File Server Cluster (Lab 35)**

Week 14 – Lesson 12 & Review

Lesson 12: Decommissioning Servers

- **Topic 12A: Decommissioning Servers**

LABS

- **Decommissioning a Domain Controller (Lab 36)**
- **APPLIED LAB 4 – Troubleshoot Server Security Scenario#1 (Lab 37A)**
- **APPLIED LAB 4 – Troubleshoot Server Security Scenario#2 (Lab 37B)**

Exam Prep Review

- **Exam Objectives**
- **Practice Exams**
- **Final Content**
- **Cleanup**

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 can be reviewed on the [CAL exams page](http://camosun.ca/services/accessible-learning/exams.html). <http://camosun.ca/services/accessible-learning/exams.html>

EVALUATION OF LEARNING

DESCRIPTION	WEIGHTING
Practice Questions	10
Lab Exercises	15
Lab Assessments	20
PBQs	10
Final Lab Assessment	20
Final Exam(s)	25
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](http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf) policy for more information. <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf>

COURSE GUIDELINES & EXPECTATIONS

The following criteria must be met:

- Students must obtain a minimum weighted average of 60% in theory evaluations (tests, examinations etc.) in any course that is a pre-requisite for subsequent courses.
- Students must obtain a minimum weighted average of 60% in lab evaluations (lab performance, reports, etc.) in any course that is a pre-requisite for subsequent courses.
- Students must obtain a minimum of 50% on the final examination for a course in order to receive a passing grade.
- Failure to meet any one of these criteria will result in a student receiving a failing grade for the course.
- All assignments (laboratory work, reports, etc.) must be submitted prior to a student writing a final examination. ALL assignments must be submitted in order to qualify to write a final exam.
- Late assignments will have marks deducted; if handed in after assignments are returned to the class, then no mark will be awarded, but the assignment must be submitted.

SCHOOL OR DEPARTMENTAL INFORMATION

School of Trades and Technology

Electronics and Computer Engineering department

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/>.

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

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

Student Misconduct (Non-Academic)

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.