

# COURSE SYLLABUS



COURSE TITLE:	Workstation Security+
CLASS SECTION:	CSNT-111-X01
TERM:	Winter 2024
COURSE CREDITS:	3
DELIVERY METHOD(S):	in person

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

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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.

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*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

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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

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This course introduces students to the concepts and procedures used to secure PCs and related network equipment. The students will gain the knowledge and skills required to evaluate and assess security vulnerabilities within enterprise environments. Students will learn to respond to security events and implement appropriate solutions depending on the nature and state of the systems.

PREREQUISITE(S): CSNT110, CSNT120, CSNT130

CO-REQUISITE(S):

EXCLUSION(S):

## COURSE LEARNING OUTCOMES / OBJECTIVES

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Compare security roles and security controls  
Explain threat actors and threat intelligence  
Perform security assessments and identify social engineering attacks and malware types  
Summarize basic cryptographic concepts and implement public key infrastructure  
Implement authentication controls  
Implement identity and account management controls  
Implement secure network designs, network security appliances, and secure network protocols  
Implement host, embedded/Internet of Things, and mobile security solutions  
Implement secure cloud solutions  
Explain data privacy and protection concepts  
Perform incident response and digital forensics  
Summarize risk management concepts and implement cybersecurity resilience  
Explain physical security

## REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

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No printed text required  
Access to CompTIA Security + Online Content

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

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

### **Week 1 – Lessons 1 & 2**

Lesson 1: Summarize Fundamental Security Concepts

- Topic 1A: Security Concepts
- Topic 1B: Security Controls

Lesson 2: Compare Threat Types

- Topic 2A: Threat Actors
- Topic 2B: Threat Surfaces
- Topic 2C: Social Engineering

## LABS

- Assisted Lab: Exploring the Lab Environment (Lab 01)
- Assisted Lab: Perform System Configuration Gap Analysis (Lab 02)
- Assisted Lab: Configuring Examples of Security Control Types (Lab 03)
- Assisted Lab: Finding Open Service Ports (Lab 04)
- Assisted Lab: Using SET to Perform Social Engineering (Lab 05)

### Week 2 – Lesson 3

#### Lesson 3: Explain Cryptographic Solutions

- Topic 3A: Cryptographic Algorithms
- Topic 3B: Public Key Infrastructure
- Topic 3C: Cryptographic Solutions

## LABS

- APPLIED Lab: Using Storage Encryption (Lab 06)
- Assisted Lab: Using Hashing and Salting (Lab 07)

### Week 3 – Lesson 4

#### Lesson 4: Implement Identity and Access Management

- Topic 4A: Authentication
- Topic 4B: Authorization
- Topic 4C: Identity Management

## Lab Quiz #1

## LABS

- Assisted Lab: Managing Password Security (Lab 08)
- Assisted Lab: Managing Permissions (Lab 09)

### Week 4 – Lesson 5

#### Lesson 5: Secure Enterprise Network Architecture

- Topic 5A: Enterprise Network Architecture
- Topic 5B: Network Security Appliances
- Topic 5C: Secure Communications

## LABS

- Assisted Lab: Setting up Remote Access (Lab 10)
- Assisted Lab: Using IPSec Tunneling (Lab 11)

### Week 5 – Lesson 6

#### Lesson 6: Secure Cloud Network Architecture

- Topic 6A: Cloud Infrastructure
- Topic 6B: Embedded Systems and Zero Trust Architecture

## Lab Quiz #2

## LABS

- Assisted Lab: Using Containers (Lab 12)
- Assisted Lab: Using Virtualization (Lab 13)

### Week 6 – Lesson 7

Lesson 7: Explain Resiliency and Site Security Concepts

- Topic 7A: Asset Management
- Topic 7B: Redundancy Strategies
- Topic 7C: Physical Security

## LABS

- APPLIED Lab: Implement Backups (Lab 14)
- Assisted Lab: Performing Drive Sanitization (Lab 15)

Week 7 – READING BREAK – No Scheduled Classes

### Week 8 – Lesson 8

Lesson 8: Explain Vulnerability Management

- Topic 8A: Device and OS Vulnerabilities
- Topic 8B: Application and Cloud Vulnerabilities
- Topic 8C: Vulnerability Identification Methods
- Topic 8D: Vulnerability Analysis and Remediation

Lab Quiz #3

## LABS

- Assisted Lab: Exploiting and Detecting SQLi (Lab 16)
- Assisted Lab: Working with Threat Feeds (Lab 17)
- Assisted Lab: Performing Vulnerability Scans (Lab 18)

### Week 9 – Lessons 9

Lesson 9: Evaluate Network Security Capabilities

- Topic 9A: Network Security Baselines
- Topic 9B: Network Security Capability Enhancement

## LABS

- Assisted Lab: Understanding Security Baselines (Lab 19)
- APPLIED Lab: Implementing a Firewall (Lab 20)

### Week 10 – Lesson 10 & 11

Lesson 10: Assess Endpoint Security Capabilities

- Topic 10A: Implement Endpoint Security

- Topic 10B: Mobile Device Hardening

#### Lesson 11: Enhance Application Security Capabilities

- Topic 11A: Application Protocol Security Baselines
- Topic 11B: Cloud and Web Application Security Concepts

#### LABS

- Assisted Lab: Using Group Policy (Lab 21)
- APPLIED Lab: Hardening (Lab 22)
- Assisted Lab: Performing DNS Filtering (Lab 23)
- Assisted Lab: Configuring System Monitoring (Lab 24)

### Week 11 – Lesson 12

#### Lesson 12: Explain Incident Response and Monitoring Concepts

- Topic 12A: Incident Response
- Topic 12B: Digital Forensics
- Topic 12C: Data Sources
- Topic 12D: Alerting and Monitoring Tools

#### Lab Quiz #4

#### LABS

- APPLIED Lab: Incident Response: Detection (Lab 25)
- APPLIED Lab: Performing Digital Forensics (Lab 26)
- Assisted Lab: Performing Root Cause Analysis (Lab 27)
- APPLIED Lab: Using Network Sniffers (Lab 28)

### Week 12 – Lesson 13

#### Lesson 13: Analyze Indicators of Malicious Activity

- Topic 13A: Malware Attack Indicators
- Topic 13B: Physical and Network Attack Indicators
- Topic 13C: Application Attack Indicators

#### LABS

- Assisted Lab: Detecting and Responding to Malware (Lab 29)
- Assisted Lab: Understanding On-Path Attacks (Lab 30)

### Week 13 – Lesson 14

#### Lesson 14: Summarize Security Governance Concepts

- Topic 14A: Policies, Standards, and Procedures
- Topic 14B: Change Management
- Topic 14C: Automation and Orchestration

## Lab Quiz #5

### LABS

- ADAPTIVE Lab: Using a Playbook (Lab 31)
- Assisted Lab: Implementing Allow Lists and Deny Lists (Lab 32)
- Assisted Lab: Use Cases of Automation and Scripting (Lab 33)

### Week 14 – Lessons 15 & 16 / Review

#### Lesson 15: Explain Risk Management Processes

- Topic 15A: Risk Management Processes and Concepts
- Topic 15B: Vendor Management Concepts
- Topic 15C: Audits and Assessments

#### Lesson 16: Summarize Data Protection and Compliance Concepts

- Topic 16A: Data Classification and Compliance
- Topic 16B: Personnel Policies

### LABS

- Assisted Lab: Performing Reconnaissance (Lab 34)
- Assisted Lab: Performing Penetration Testing (Lab 35)
- Assisted Lab: Training and Awareness through Simulation (Lab 36)
- Challenge Lab: Network Incident Investigation and Remediation (Lab 37)

- Exam Prep Review
- Exam Objectives & Practice Exams

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

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DESCRIPTION	WEIGHTING
Practice Questions	10
Lab Exercises	15
Lab Assessments	20
PBQs	10
Final Lab Assessment	20

DESCRIPTION	WEIGHTING
Final Exam	25
<b>TOTAL</b>	<b>100%</b>

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

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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

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School of Trades and Technology

Electronics and Computer Engineering department

## STUDENT RESPONSIBILITY

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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

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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/>.

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Academic Advising

<http://camosun.ca/advising>

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Accessible Learning	<a href="http://camosun.ca/accessible-learning">http://camosun.ca/accessible-learning</a>
Counselling	<a href="http://camosun.ca/counselling">http://camosun.ca/counselling</a>
Career Services	<a href="http://camosun.ca/coop">http://camosun.ca/coop</a>
Financial Aid and Awards	<a href="http://camosun.ca/financialaid">http://camosun.ca/financialaid</a>
Help Centres (Math/English/Science)	<a href="http://camosun.ca/help-centres">http://camosun.ca/help-centres</a>
Indigenous Student Support	<a href="http://camosun.ca/indigenous">http://camosun.ca/indigenous</a>
International Student Support	<a href="http://camosun.ca/international/">http://camosun.ca/international/</a>
Learning Skills	<a href="http://camosun.ca/learningskills">http://camosun.ca/learningskills</a>
Library	<a href="http://camosun.ca/services/library/">http://camosun.ca/services/library/</a>
Office of Student Support	<a href="http://camosun.ca/oss">http://camosun.ca/oss</a>
Ombudsperson	<a href="http://camosun.ca/ombuds">http://camosun.ca/ombuds</a>
Registration	<a href="http://camosun.ca/registration">http://camosun.ca/registration</a>
Technology Support	<a href="http://camosun.ca/its">http://camosun.ca/its</a>
Writing Centre	<a href="http://camosun.ca/writing-centre">http://camosun.ca/writing-centre</a>

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.

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## COLLEGE-WIDE POLICIES, PROCEDURES, REQUIREMENTS, AND STANDARDS

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### 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](http://camosun.ca/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](http://camosun.ca/sexual-violence). To contact the Office of Student Support: [oss@camosun.ca](mailto: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.