



CAMOSUN COLLEGE
Trades and Technology
Electronics and Computer Engineering

ELEX 138
PC Workstation

Fall 2020
COURSE OUTLINE

The calendar description is available on the web @

Camosun.ca

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	Phil Vreugdenhil
(b) Office hours	D2L – BB Collaborate @ 11am – 12pm on Wednesdays (except Nov. 11th)
(c) Location	CBA 122A
(d) Phone	250 370 4622 Alternative: _____
(e) E-mail	VreugdenhilP@camosun.bc.ca
(f) Website	_____

2. Intended Learning Outcomes

This course covers topics relating to PC Workstation maintenance, upgrading, and repair. Topics include the fundamentals of PC systems, hardware components such as microprocessors, system boards, memory, disk storage, power supplies, and peripherals including keyboards, pointing devices, displays, printers, application software and operating systems. The student will be prepared to complete the CompTIA A+ certification.

This course is only open to students enrolled in Computer Network Electronics Technician Program.

Students successfully completing this course will have gained a basic understanding of computer systems. They will be able to:

- identify and describe the various components that make up a personal computer.
- define information technology as it relates to PC workstations;
- demonstrate the disassembly and assembly of a personal computer;
- describe preventive maintenance and basic troubleshooting steps;
- demonstrate the processes used to install, upgrade, configure, and optimize a computer operating system, and apply preventive maintenance and troubleshooting techniques; and
- describe the process for replacing or upgrading personal computer components and apply preventive maintenance and troubleshooting techniques.

3. Required Materials

- Access to Cisco ITE 7 – Online Curriculum. → www.netacad.com
- Access to Camosun College D2L Site → <https://online.camosun.ca>
- Bound journal for lab exercises (recommended)

4. Course Content – Based on Cisco's ITE 7.0 & CompTIA's A+ Objectives and Topics

Chapter 1: Introduction to the Personal Computer

- 1.1 Personal Computer Systems
- 1.2 Select Computer Components
- 1.3 Computer Disassembly

Chapter 2: PC Assembly

- 2.1 Installing Components
- 2.1 Installing Cables

Chapter 3: Advanced Computer Hardware

- 3.1 Boot the Computer
- 3.2 Electrical Power
- 3.4 Computer Configuration

Chapter 4: Preventative Maintenance and Troubleshooting

- 4.1 Preventive Maintenance
- 4.2 Troubleshooting Process

Chapter 5: Network Concepts

- 5.1 Network Components & Types
- 5.2 Network Standards, Protocols, & Services
- 5.3 Network Devices & Cables

Chapter 6: Applied Networking

- 6.1 Device to Network Connection
- 6.2 Basic Troubleshooting Process for Networks

Chapter 7: Laptops and Mobile Devices

- 7.1 Characteristics of Laptop and Mobile Devices
- 7.2 Laptop Configuration
- 7.3 Laptop Hardware and Component Installation and Configuration
- 7.4 Mobile Device Hardware: Overview
- 7.5 Network Connectivity & Email
- 7.6 Common Preventive Maintenance & Troubleshooting Process for Laptops and Mobile Devices

Chapter 8: Printers

- 8.1 Common Printer Features
- 8.2 Printer Type Comparison
- 8.3 Installing & Configuring Printers
- 8.4 Sharing Printers

- 8.5 Maintaining and Troubleshooting Printers

Chapter 9: Virtualization & Cloud Computing

- 9.1 Virtualization
- 9.2 Cloud Computing

Chapter 10: Windows Installation

- 10.1 Modern Operating Systems
- 10.2 Disk Management
- 10.3 Operating System Installation & Boot Sequence

Chapter 11: Windows Configuration

- 11.1 Windows Desktop & File Explorer
- 11.2 Configure Windows with Control Panels
- 11.3 System Administration
- 11.4 Command-Line Tools
- 11.5 Windows Networking
- 11.6 Preventative Maintenance & Troubleshooting

Chapter 12: Mobile, Linux, and macOS Operating Systems

- 12.1 Mobile Operating Systems
- 12.2 Methods for Securing Mobile Devices
- 12.3 Linux and macOS Operating Systems
- 12.4 Basic Troubleshooting Process for Mobile, Linux, and OS X Operating Systems

Chapter 13: Security

- 13.1 Security Threats
- 13.2 Security Procedures
- 13.3 Securing Windows Workstations
- 13.4 Wireless Security

Chapter 14: The IT Professional

- 14.1 Communication Skills and the IT Professional
- 14.2 Operational Procedures
- 14.3 Ethical and Legal Issues in the IT Industry
- 14.4 Call Centre Technicians

5. Basis of Student Assessment (Weighting)

(a) Chapter Quizzes	0.5% x 14	=	7%
(b) Chapter Exams	1% x 11	=	11%
(c) Labs	1% x 12	=	12%
(d) Major Exams			
ITE Mid-Term	(week #8-9)	=	20%
ITE Final (Theory)	(During Finals Week)	=	30%
ITE Final (Practical)	(Week #14 Lab)	=	20%
	TOTAL	=	100%

Chapter Quizzes and Exams will be available starting in week #2. Chapter quizzes are to be completed by the end of the semester – multiple attempts permitted. Chapter exams must be completed during the assigned times - see the deadlines on Netacad – ITE 7.0 Course.

Labs are hands-on, practical-based activities which are to be completed “at home” using the take-home kit and are to be submitted as soon as possible. Expect to complete 1 lab per week minimum.

There will be a one hour Mid-Term Exam during Week 8-9 of the course based on chapters #1-9 of the Cisco ITE curriculum.

There will be a three hour theory-based Final Exam during the Exam Week based on all chapters of the Cisco ITE curriculum.

There will be a skills-based Final Exam based on all chapters of the Cisco ITE curriculum – you must configure your PC to a particular state before returning it to Camosun.

NOTE: A minimum of 50% (average) must be achieved in each of the theory and lab portions to pass the course.

**Less than 50% in either portion will result in a failure of the entire course.

ALSO, in order to pass this course, you must meet the following criteria:

- pass the Final Exam with a minimum grade of 50%
- obtain an average of 60% on Assignments/Quizzes & Midterm Exam
- submit all lab reports and achieved a minimum grade of 60% average
- score an overall course mark of 60% using the weighting above

6. Grading System

Standard Grading System (GPA)

Competency Based Grading System

GRADING SYSTEMS <http://www.camosun.bc.ca/policies/policies.php>

The following grading systems is used for ELEX 138:

I. 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

II. 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.

7. 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.

PROPOSED WEEKLY ONLINE SCHEDULE:

(A) = asynchronous – see Course Media and Content on D2L for recorded videos

(S) = synchronous – see D2L BB Collaborate session for live participation

Mon (S) – Lab @ 1:30pm – 3:20pm

Wed (S) – Office Hours @ 11am – 12pm

Wed (A) – Lecture @ 3:30pm – 5:20pm

Fri (S) – Seminar @ 9:30am – 10:20am

TBD (A) – Home Work @ ~ 6 hours