



**CAMOSUN COLLEGE**  
**Trades and Technology**  
**Electronics and Computer Engineering**

**ELEX 133B**  
**Routing and Switching – Routing**  
**Winter 2018**

**COURSE OUTLINE**

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The calendar description is available on the web @ [Camosun.ca](http://Camosun.ca)

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**1. Instructor Information**

(a) Instructor	Trevor Curtis	
(b) Office hours	Email for an appointment	
(c) Location	CBA 122	
(d) Phone	250 370 4431	Alternative: _____
(e) E-mail	curtis@camosun.bc.ca	
(f) Website		

**2. Intended Learning Outcomes**

Networking Fundamentals and Routing introduces the student to local area networks, internetworking and the associated concepts. Students will configure hardware and network resources required to create a functional LAN. The OSI model will be used extensively as a tool to discuss the various concepts such as IP addressing and TCP/IP. The students will explore the Cisco Command Line Interface as they learn how to program network switches and routers.

They will be able to:

- apply switching hardware in an IT Network
- enable data-link layer security between a host computer and the network hardware
- create virtual LAN configurations to segment networks
- perform router configuration in LAN and WAN topologies
- implement common routing protocols on routers
- complete VLSM and CIDR network designs
- configure access control lists on routers
- deploy DHCP and NAT with routers

**3. Required Materials**

- Access to Cisco CCNA Intro – Online Curriculum. → [www.netacad.com](http://www.netacad.com)
- Access to Camosun College D2L Site → <https://online.camosun.ca>

## 4. Course Content

### Routing Course

1. Review
2. Routing Concepts
  - a. Router Initial
  - b. Routing
  - c. Router Operation
3. Static Routing
  - a. Implement Static Routes
  - b. Configure Static and Default Routes
  - c. Troubleshoot Static and Default Routes
4. Dynamic Routing
  - a. Dynamic Routing Protocols
  - b. RIPv2 Implement RIPv2.
  - c. The Routing Table
5. Switched Networks
  - a. LAN Design
  - b. The Switched Environment
6. Reading Break
7. Switch Configuration
  - a. Basic Switch Configuration
  - b. Switch Security
8. VLANs
  - a. VLAN Segmentation
  - b. VLAN Implementations
  - c. Inter-VLAN Routing Using Routers
9. Access Control Lists
  - a. ACL Operation
  - b. Standard IPv4 ACLs
  - c. Troubleshoot ACLs
10. DHCP
  - a. DHCPv4
  - b. DHCPv6
11. NAT for IPv4
  - a. NAT Operation
  - b. Configure NAT
  - c. Troubleshoot NAT
12. Device Discovery, Management, and Maintenance
  - a. Device Discovery
  - b. Device Management
  - c. Device Maintenance
13. Cisco Academy Final
14. CCENT study and review

## 5. Basis of Student Assessment (Weighting)

(a) Assignments	=	15%
(b) Chapter Exams	=	5%
(c) Exams		
Skills Integration PTs	=	20%
Skills Assessment	=	15%
Skills Exams	=	20%
Final Exam	=	10%
(d) Labs	=	15%
	=	100%

A mark of 0% will be given for any late submissions.

Packet Tracer activities will be assigned and submitted to the correct D2L dropbox by **Friday 11:55pm** of the current week.

A mark of 0% will be given for any late submissions.

Chapter Exams will consist of the Cisco Online Chapter Exams and will be completed during classes.

There will be several Packet Tracer Skills based assessments throughout the course.

There will be a Final Exam.

Lab exercises are to be completed by the end of the lab period.

**You should keep a bound journal for any information relating to this course such as terminology, lab exercises, observations, and procedures.**

## 6. Grading System

Standard Grading System (GPA)

Competency Based Grading System

## 7. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

### LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College Calendar, Student Services or the College web site at <http://www.camosun.bc.ca>

### STUDENT CONDUCT POLICY

There is a Student Conduct Policy. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, Registration, and on the College web site in the Policy Section.  
<http://www.camosun.bc.ca/policies/policies.html>

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

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://www.camosun.bc.ca/policies/E-1.5.pdf> 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.