



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

**ELEN 120**  
**Fiber Optic Cabling**

***Winter 2024***

**COURSE OUTLINE**

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The calendar description is available on the web @ Camosun.ca

*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.*

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**1. Instructor Information**

<b>(a) Instructor</b>	Solomon Lindsay
<b>(b) Office hours</b>	_____
<b>(c) Location</b>	TEC 206
<b>(d) Phone</b>	250-370-4557 <b>Alternative:</b> _____
<b>(e) E-mail</b>	lindsays@camosun.ca
<b>(f) Website</b>	_____

**2. Intended Learning Outcomes**

Fiber Optics cabling course introduces the student to fiber optics media and the associated concepts. This course follows the Fiber Optics Association (FOA) curriculum. Lab exercises will focus on the practical skills of Fiber Optic connector terminations and testing.

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

- ✓ Describe the fundamentals of fiber optic communications;
- ✓ Describe the advantages and disadvantages of using optical fiber;
- ✓ Explain the theory of operation of optical fiber;
- ✓ Demonstrate various termination and splicing techniques observing appropriate safety precautions;
- ✓ Explain and demonstrate basic installation and troubleshooting techniques.

### 3. Required Materials

- a) There is no required text for this course. All the information is available online
- b) Access to Camosun D2L online course materials as required
- c) Access to FOA site ([www.foa.org](http://www.foa.org))
- d) Access Fiber Optic termination equipment

### 4. Course Content

1. Introduction
2. Basic overview
3. The jargon and the technology
4. Fiber Optic Networks: basic applications and transmission systems
5. Fiber Optic Datalinks, Fiber Optic Transceivers for Datalinks
6. Optical Fiber
7. Termination and splicing Termination
  - Epoxy/Polish, Anaerobic, Hot-Melt, Pre-Polished Splice termination
  - Singlemode and Multimode termination Splice VHO: Mech splice Fusion: single fiber ribbon
8. Fiber Optic Testing
  - Insertion loss testing
  - Interpret OTDR
9. Network Design
10. Installation
11. About Standards

### 5. Basis of Student Assessment (Weighting)

a) <b>Fiber Theory</b>	<b>10%</b>
• Reading/Assignment Questions	5%
• Quizzes	5%
b) <b>Fiber Hands-on Exercises</b>	<b>30%</b>
• Safety/Professionalism	
• Connector Terminations	
• Fusion Splicing	
• Fiber Test sheets	
• OTDR Sheet	
c) <b>Fiber Practical Test</b>	<b>20%</b>
• Connector Termination	15%
• Cable Testing	5%
d) <b>Fiber Theory Exam</b>	<b>40%</b>
<b>Total</b>	<b>100%</b>

Please note the following:

1. A grade of 50% or better is required in all assessment items above to be able to pass the course.
2. A grade of 60% or better is required in all assessment items above to qualify as a prerequisite.
3. Attendance and completion of all course material is mandatory to pass the course.
4. A student is required to inform the instructor prior to being late or missing a class, or as soon as possible.
5. A mark of 0% will be given for any late submissions.

## 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.

