



## WIST-205 – Structured Cabling Systems

### Technology

**Effective Term & Year:** Fall 2022

**Course Outline Review Date:** 2027-03-01

**Program Area:** Information Technology

#### Description:

This course will introduce students to copper and fiber optic structured cable systems. The course aims to offer a balanced mix of theory and practice relating to cabling system. Students will learn installation and testing procedures for specific copper category cabling. The fibre portion of the course will cover the basic concepts of light transmission theory in fiber, the different types of single-mode and multi-mode fibers, installation of various fiber optic connectors and fusion splicing of fibres. A high degree of importance will be placed on development of good hand skills and safely handling copper and fiber optic cabling.

#### Program Information:

This course is required for successful completion of the Wireless Systems Technician Diploma program.

**Delivery Methods:** Hybrid – On-campus (Face-to-Face) and Online

**Credit Type:** College of the Rockies Credits

**Credits:** 4

#### Instructional Activity and Hours:

Activity	Hours
Classroom, Directed Studies or Online Instruction	60
Seminar/Tutorials	

Laboratory/Studio	60
Practicum/Field Experience	
Co-op/Work Experience	
Other	
<b>Total</b>	<b>120</b>

### Course Requisites:

- Earned a minimum grade of C- (55%) in each of the following:
  - [WIST204](#) – Microwave Communications (3)

### Flexible Assessment: Yes

In some cases students may be able to apply for recognition of prior learning outside the classroom. This flexible assessment process provides equivalent course credit. It is a rigorous process that may include external evaluation, worksite assessment, demonstration, standardized test, self-assessment, interview, products/portfolio, and challenge exam, or other measures as appropriate. Tuition fees apply. Contact an education advisor for more information.

### Course Transfer Credit:

For information about receiving transfer credit for courses taken at other BC institutions, please see <http://www.bctransferguide.ca>. All requests for course transfer credit from institutions in BC or elsewhere should go to the College of the Rockies Enrollment Services office.

### Textbook Resources:

Textbook selection varies by instructor and may change from year to year. At the Course Outline Effective Date the following textbooks were in use:

Oliviero & Woodward. *Cabling: The complete Guide to Copper and Fiber-Optic Cabling*, 5th Ed.

Please see the instructor's syllabus or check COTR's online text calculator <https://textbook.cotr.bc.ca/> for a complete list of the currently required textbooks.

### Learning Outcomes:

Upon the successful completion of this course, students will be able to

- troubleshoot and correct faults in a copper cabling run;
- employ safety & handling practices associated with copper cable;
- describe the basic functions of optical transceivers;
- describe optical fiber: components, tensile strength, manufacturing and mode and reflective index profiles;
- describe optical fiber: dispersion, attenuation and bending loss;
- discuss fiber optic cable installation using industry standards;
- build and test a fibre optic cable;
- demonstrate the use of an OTDR & Measure fiber loss with a power meter;
- describe optical fiber splicing: safety, procedures, equipment, procedures and requirements;
- perform SM fusion splicing on a fibre optic cable; and
- test and evaluate a fibre optic link.

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### Course Topics:

- Structured Cabling Systems
- Copper Cable
- Fibre Optic Cable
- Optical Transceivers
- Splicing

*See instructor's syllabus for the detailed outline of weekly readings, activities and assignments.*

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## Evaluation and Assessments

### Assessment Type: On-Campus (face-to-face) and Online, or Hybrid

Assessment Type	% of Total Grade
Written Copper Exam	40%
Written Fiber Exam	40%
Lab Test #1	10%
Lab Test #2	10%
Total	100%

### Grade Scheme

A+	A	A-	B+	B	B-	C+	C	C-	D	F
>=90	89-85	84-80	79-76	75-72	71-68	67-64	63-60	59-55	54-50	<50

**Pass requirements:** None

**Evaluation Notes:** A grade of “D” grants credit, but may not be sufficient as a prerequisite for sequential courses.

**Evaluation Notes Comments:**

Please see the instructor’s syllabus for specific classroom policies related to this course, such as details of evaluation, penalties for late assignments and use of electronic aids.

**Exam Attendance:**

Students must attend all scheduled exams at the appointed time and place. Instructors may approve an alternate exam to accommodate an illness or personal crisis. Department heads will consider other written requests. Any student who misses a scheduled exam without prior approval will receive a “0” on the exam.

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**Academic Policies:**

College of the Rockies policies related to courses can be found at <https://cotr.bc.ca/about-us/college-policies/> and include the following:

- Policy 2.4.3 Students with Documented Disabilities
- Policy 2.4.4 Student Conduct (plagiarism, other cheating, behavioral misconduct)
- Policy 2.5.8 Academic Performance
- Policy 2.5.3 Grade Appeal
- Policy 2.4.9 Student Concerns Re Faculty

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**Equivalent Course(s) and Course Code Changes**

Prior Course Code: AUST 207, WIST 207

**Course Changes:**

The College of the Rockies updates course outlines regularly to meet changing educational, employment and marketing needs. The instructor will notify students in writing of any updates to this outline during the semester. The instructor reserves the right to revise, add or delete material while meeting the learning outcomes of this course outline.