



Radio Frequency (RF) Applications – WIST 206 Wireless Communications Technician Program

Course Outline

COURSE IMPLEMENTATION DATE: September 2020
OUTLINE EFFECTIVE DATE: September 2022
COURSE OUTLINE REVIEW DATE: March 2027

GENERAL COURSE DESCRIPTION:

This course focuses on the configuration and testing of real-world radio systems. Digital radio systems using both conventional and trunked mode operation will be configured, modified, tested and documented. IP Switching and Routing protocols will be used to configure wireless applications such as Radio over IP (RoIP), Wireless LANs and Point to Point communications systems. Advanced antenna systems will be built and tested, and radio site power systems will be introduced. Students will learn the correct usage of technical manuals and radio system documentation. Advanced troubleshooting methodologies using logical fault finding are explored in the lab. Additional training in industry specific hand skills related to radio systems installation will be provided. General safety practices specifically related to the RF industry will also be reviewed.

Program Information: This course is required for successful completion of the Wireless Communications Technician program.

Delivery: This course is delivered hybrid (includes both face-to-face and online components).

COTR Credits: 4

Hours for this course: 150 hours

Typical Structure of Instructional Hours:

Instructional Activity	Duration
Lecture Hours	75
Seminars / Tutorials	
Laboratory / Studio Hours	75
Practicum / Field Experience	
Other Contact Hours	
Total	150

Practicum Hours (if applicable):

Type of Practicum	Duration
On-the-Job Experience	
Formal Work Experience	
Other	
Total	N/A

Course Outline Author or Contact:

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Signature

APPROVAL SIGNATURES:

Department Head

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Department Head Signature

Dean Signature

EDCO

Valid from: September 2022 – March 2027

Education Council Approval Date

COURSE PREREQUISITES AND TRANSFER CREDIT:

Prerequisites: WIST 201 and WIST 202 with a minimum grade of C- (55%) or higher.

Corequisites: N/A

Flexible Assessment (FA):

Credit can be awarded for this course through FA Yes No

Learners may request formal recognition for flexible assessment at the College of the Rockies through one or more of the following processes: External Evaluation, Worksite Assessment, Demonstration, Standardized Test, Self-assessment, Interview, Products/Portfolio, Challenge Exam. Contact an Education Advisor for more information.

Transfer Credit: For transfer information within British Columbia, Alberta and other institutions, please visit <http://www.cotr.bc.ca/Transfer>.

Student should also contact an academic advisor at the institution where they want transfer credit.

Prior Course Number: AUST210

Textbooks and Required 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:

Wireless Communications Technician Level 2 Lab Manual

Wireless Systems Technician Level 2 Package

Please see the instructor's syllabus or check COTR's online text calculator

<http://go.cotr.bc.ca/tuition/tCalc.asp> for a complete list of the currently required textbooks.

LEARNING OUTCOMES:

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

- explain the basic components of a communications network;
 - configure and test an antenna network;
 - configure, test, modify, and document a digital radio system;
 - configure, test, and document small wireless data networks;
 - describe a RoIP data communications system;
 - explain the operation of a cellular service, UMTS and LTE communications networks;
 - use technical manuals and system documentation for configuration and troubleshooting;
 - demonstrate various troubleshooting methodologies; and
 - demonstrate workplace safety practices.
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COURSE TOPICS:

- Radio Systems
- Wireless LANs
- Radio Over IP Communications
- Cellular Communication Networks
- UMTS and LTE Communication Networks

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

EVALUATION AND ASSESSMENT (Face-to-Face Delivery):

Assignments	% of Total Grade
Exams (x2)	50%
Labs	40%
Assignments	<u>10%</u>
Total	100%

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 POLICY:

Students must attend all required scheduled exams that make up a final grade at the appointed time and place.

Individual instructors may accommodate for illness or personal crisis. Additional accommodation will not be made unless a written request is sent to and approved by the appropriate Department Head prior to the scheduled exam.

Any student who misses a scheduled exam without approval will be given a grade of "0" for the exam.

COURSE GRADE:

Course grades are assigned as follows:

Grade	A+	A	A-	B+	B	B-	C+	C	C-	D	F
Mark (Percent)	≥ 90	89-85	84-80	79-76	75-72	71-68	67-64	63-60	59-55	54-50	< 50

A grade of "D" grants credit but may not be sufficient as a prerequisite for sequential courses.

ACADEMIC POLICIES:

See www.cotr.bc.ca/policies for general college policies related to course activities, including grade appeals, cheating and plagiarism.

COURSE CHANGES:

Information contained in course outlines is correct at the time of publication. Content of the courses is revised on an ongoing basis to ensure relevance to changing educational, employment and marketing needs. The instructor endeavours to provide notice of changes to students as soon as possible. The instructor reserves the right to add or delete material from courses.