



Introduction to Networks – WIST 106 Wireless Systems Technician Program

Course Outline

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

GENERAL COURSE DESCRIPTION:

This first course in the 3-course Cisco Networking Academy series is an introduction to how networks operate and introduces students to architectures, models, protocols, and networking elements, functions needed to support the operations and priorities of Fortune 500 companies to small innovative retailers. Students will build simple local area networks (LANs), develop a working knowledge of IP addressing schemes and foundational network security and be able to perform basic configurations for routers and switches. After completing all three CCNA courses, WIST 107, WIST 108 and WIST 109 students are able to take the Cisco Networking Academy (CCNA) Certification.

Program Information: This course is required for the first year of the Wireless Systems Technician program.

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

COTR Credits: 4

Hours for this course: 120 hours

Typical Structure of Instructional Hours:

Instructional Activity	Duration
Lecture Hours	60
Seminars / Tutorials	
Laboratory / Studio Hours	60
Practicum / Field Experience	
Other Contact Hours	
Total	120

Practicum Hours (if applicable):

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

Course Outline Author or Contact:

Oludare Sokoya, PhD, PMP

Signature

APPROVAL SIGNATURES:

Department Head

Joy Brown

E-mail: jbrown3@cotr.bc.ca

Dean of Trades and Technology

Dr. Jack Moes

E-mail: jmoes@cotr.bc.ca

Department Head Signature

Dean Signature

EDCO

Valid from: September 2022 – March 2027

Education Council Approval Date

COURSE PREREQUISITES AND TRANSFER CREDIT:

Prerequisites: WIST 105 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: AUST 107

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:

Cisco Networking Academy online course materials

Companion Guide text from Cisco Press (Optional)

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 advances in modern network technologies;
 - implement initial settings including passwords, ip addressing, and default gateway parameters on a network switch and end devices;
 - explain how network protocols enable devices to access local and remote network resources;
 - explain how physical layer protocols, services, and network media support communications across data networks;
 - calculate numbers between decimal, binary, and hexadecimal systems;
 - explain how media access control in the data link layer supports communication across networks;
 - explain how ethernet operates in a switched network;
 - explain how routers use network layer protocols and services to enable end-to-end connectivity;
 - explain how arp and nd enable communication on a local area network;
 - implement initial settings on a router and end devices;
 - calculate an ipv4 subnetting scheme to efficiently segment your network;
 - calculate an ipv6 subnetting scheme to efficiently segment your network;
 - explain how icmp manages messaging between devices;
 - compare the operations of transport layer protocols in supporting end-to-end communication;
 - explain the operation of application layer protocols in providing support to end-user applications;
 - configure switches and routers with device hardening features to enhance security; and
 - implement a network design for a small network to include a router, a switch, and end devices, switches and computers.
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COURSE TOPICS:

- OSI Model
- Data Networks
- Ethernet Networks
- Network Architecture

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

EVALUATION AND ASSESSMENT

Assignments	% of Total Grade
Labs	20%
Lab Tests (x2 @ 10% each)	20%
CISCO Chapter Exam	10%
CISCO Final Exam	10%
Mid-term Exams (x2 @ 10% each)	20%
Final Exam	<u>20%</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.