Douglas College

EFFECTIVE: SEPTEMBER, 2007
CURRICULUM GUIDELINES

A.	Division:	Education	Effective Date:		September 2007	
B.	Department / Program Area:	Commerce & Business Admin. Computing Science And Information Systems	Revision If Revision, Section(s) Revised: Date of Previous Revision: Date of Current Revision:		New Course	X

C:	**D:**	**E:**
CSIS1150	NETWORKING ESSENTIALS WITH CCNA I	3
Subject & Course No.	Descriptive Title	Semester Credits

F: Calendar Description:

This course will provide a basic understanding of Wide Area Network (WAN) and Local Area Network (LAN) data communication standards, protocols, security, technologies, and techniques. Detailed topics will include the importance of networking, the convergence of data, video, and voice; the roles of networking professionals; the Internet, intranets and extranets; network standards, the TCP/IP protocol suite, network hardware and software; Ethernet, network media, network management and security issues. This course will provide the student with a basic understanding of the Internet and organizational networks, including the potential benefits and risks. This course includes Cisco Networking Academy CCNA 1 and additional topics.

Note: *Students who have received credit for CISY 2345 or CISY 2346 will not receive further credit for CSIS1150.*

G: Allocation of Contact Hours to Type of Instruction / Learning Settings

Primary Methods of Instructional Delivery and/or Learning Settings:

Lectures, Seminars and online curriculum.

Number of Contact Hours: (per week for each descriptor)

Lecture:	2 Hours per week
Seminar:	2 Hours per week
Total:	4 Hours per week

Number of Weeks per Semester:

15 Weeks X 4 Hours per Week = 60 Hours

H: Course Prerequisites:

CSIS1110 or CISY1110 or approved equivalent

I: Course Corequisites:

Nil

J: Course for which this Course is a Prerequisite

CSIS2150, CSIS2350

K: Maximum Class Size:

35

L: PLEASE INDICATE**:**

	Non-Credit
	College Credit Non-Transfer
X	College Credit Transfer:

SEE BC TRANSFER GUIDE FOR TRANSFER DETAILS (www.bctransferguide.ca)

M: Course Objectives / Learning Outcomes

The student should be able to:

1) explain the fundamental concepts of data communications, including characteristics of transmission media, protocols, encoding, encryption, and other current terminology;
2) describe the standards bodies, processes and what part they play in the data communications field today;
3) explain the fundamental data communications issues such as reliability, convergence, throughput and channel capacity;
4) describe and compare the OSI reference model and TCP/IP protocol suite;
5) explain the major components of the TCP/IP protocol suite, including IPv4 and IPv6;
6) explain in detail the function and design of OSI seven layer protocol;
7) calculate and register IP addresses, including subnets;
8) lay out and develop logical and physical LAN topologies;
9) explain current WAN technologies;
10) configure wired and wireless LANs, including PC clients and simple hubs, switches and routers;
11) build and test a UTP patch cable;
12) explain the working principles of web and internet servers;
13) process information over the internet in a secure and legal way.

N: Course Content:

1) Introduction to data communications: basic communications model, historical and future trends, standards, convergence
2) The OSI network reference model and the TCP/IP protocol suite
3) Data communications basics: signalling, multiplexing, data encoding, channel capacity, reliability and performance
4) Network media characteristics and testing: copper, fiber-optic and wireless
5) Data link layer protocols: framing, error detection and correction, flow control
6) IEEE 802 standard, Ethernet and other LAN protocols
7) Ethernet technologies
8) Data Switching Techniques: TDM/FDM, transmission mode, circuit switching, packet switching, virtual circuit and datagram
9) Ethernet switching
10) Network layer protocols: IP datagram, ARP, routing protocols (BGP, OSPF, RIP)
11) Transport layer protocols: design issues of reliable data delivery, handshaking, TCP and UDP
12) TCP/IP application layer
13) PC networking, including a hands-on implementation of a PC LAN
14) Wide Area Network technologies (e.g. ATM, X.25, Frame Relay, satellite)
15) Metropolitan Area Networks
16) Internetworking: local and enterprise intranets and extranets and backbone network technologies
17) Basics of network security, planning and management

O: Methods of Instruction

Lecture, self-study of online curriculum, visual presentations and demonstrations, hands-on exercises in the lab.

P: Textbooks and Materials to be Purchased by Students

Toolkit and supplies for cable construction.
Optional: Forouzan, Behrouz A. Business Data Communications. Latest Edition. McGraw-Hill.

Q: Means of Assessment

Assignments (2-6)	20% - 25%
Skills-based Hands-on Exercises	10%
In-class Quizzes (online or paper) (8-12)	35% - 40%
Final Examination	30%
Total	100%

NOTE: STUDENT MUST PASS THE FINAL EXAM TO PASS THE CLASS.

R: Prior Learning Assessment and Recognition: specify whether course is open for PLAR
Yes

Course Designer(s): Sarah Stephens

Education Council / Curriculum Committee Representative

Dean: Rosilyn G. Coulson

Registrar: Trish Angus