CURRICULUM GUIDE: OFFICIAL COURSE OUTLINE

Course Code	CPSC 120	Course Title	Introduction to Cloud Computing			
Credit Value	3	Department	Mathematics and Science			

No. of weeks	14	Hrs. per week	*Lecture*	*Tutorial*	*Laboratory*	*Total*
			3	0	1	4

Course Description	This course provides an introduction to networking, cloud computing, and the Internet of Things (IoT) for undergraduate students. Students will gain an understanding of these technologies and use popular tools and platforms with cybersecurity and privacy considerations. Topics include cloud storage, online business, e-commerce, social media management, and IoT applications.
Prerequisite(s)	ENGL 099

Initial Articulation Targets	*UBC*	*SFU*	*UVic*	*UNBC*	*TRU*
	CPSC 1XX (3)	CMPT 1XX (3)	CSC 1XX (1.5)	CPSC 1XX (3)	COMP 1XXX (3)

	For updated information on the transferability of this course, please consult the BC Transfer Guide, www.bctransferguide.ca

Learning Outcomes	Upon successful completion of this course, the student will be able to: • Explain how devices communicate over the Internet and how data flows across networks. • Design simple applications with cloud technologies for file management, sharing, and collaboration. • Analyze business scenarios, create and manage online business such as a simple online e-commerce store with cloud platforms. • Use cloud-based collaboration tools for project management. • Use cloud-based social media for personal and business applications responsibly while considering search engine optimization (SEO). • Explain IoT and operate devices that utilize this technology. • Evaluate cloud-based applications and technologies with cybersecurity and privacy considerations.

Content	**Core** topics – all of the following will be covered:
	• Overview of Networking, Internet, and Cloud Computing
	   ○ Computer network:
	      ▪ Types of networks: Local Area Networks (LAN), Wide Area Networks (WAN), and the Internet.
	      ▪ Network components: routers, switches, and servers.
	      ▪ Data transmission, Internet Protocol (IP) addresses, Domain Name System (DNS).

	- Internet: - Internet Service Providers (ISPs), Bluetooth, cellular system / 5G, Wi-Fi. - Cloud Computing: - Cloud service models: Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Software as a Service (SaaS). - Advantages: scalability, accessibility, flexibility, security. - Cloud Storage - Advantages; file syncing, data encryption, server management. - E-Commerce, Blogs, and Social Media - Difference between B2C (Business to Consumer) and C2C (Consumer to Consumer) models. - Digital payments, shopping carts, and checkout processes. - Marketing and communication, SEO, images, and multimedia. - Online Portfolios and Booking Systems - Best Practices: Layout, design, content. - Monetizing Content with Subscription Services - Generating income through exclusive content: Special rewards, behind-the-scenes access, and personalized content. - Professional E-mail and Custom Domain Set-up - Simple Mail Transfer Protocol (SMTP), Post Office Protocol 3 (POP3), and Internet Message Access Protocol (IMAP). - E-mail privacy, spam, and data security. - Cloud-based Data Collection - Data collection and data mining. - Cybersecurity and privacy. - IoT - Architecture, edge vs. cloud, communication protocols, data flow, and security. Additional topics may also be covered, at the discretion of the instructor.
Methods of Instruction	Lectures, assignments, computer laboratory work, projects, assigned reading, quizzes, examinations.
Required Textbook(s)	The following textbook(s) is/are required, or approved equivalent(s). Hurwitz, J. S., & Kirsch, D. (2020). Cloud computing for dummies (2nd ed.). For Dummies.
Required Equipment and Technology	Students are required to have a computer with internet access. The following resources are provided by the College: - Office 365 - Student email

Homework Hours	At minimum, students can expect one hour of homework for every hour of instructional time.		
Evaluation	*Component*		*% Value*
	Oral Participation		10-20%
	Group Presentation		10-20%
	Research paper or project		15-25%
	Midterm exam(s) and/or Quizzes		15-25%
	Final examination		20-30%
Completion Requirements	The minimum grade to pass this course is D (50%). Unless otherwise stated, a minimum grade of C- (55%) is required for this course to fulfil a prerequisite.		
Course Designer(s)	Wei Li, Ph.D., Director of Academic Innovation and Research Infrastructure Kelly Cheung, PhD., Department Head of Mathematics and Science, Alexander College	Consultant(s), *if applicable*	John Edgar, M.Sc., School of Computing Science, Simon Fraser University
Dean's Approval	Steven Roe, Ph.D., Dean of Arts and Sciences, Alexander College	Dean's Approval Date	January 16, 2025
Education Committee Approval Date	January 16, 2025	First Term Offered	
Last Review Date	January 16, 2025	Next Review Date	January 16, 2030
Revision History			