COMPUTER INFORMATION SYSTEMS

The Computer Information Systems programs (CISY) offer a unique practitioner-oriented approach to systems support and software development. Computer Information Systems courses are offered by the Computer Science and Information Technology department. These programs provide graduates with diverse computing knowledge to meet the computer and information system needs of organizations of all sizes.

KPU graduates who complete the prescribed courses in the Computer Information Systems (CISY) diploma or certificate program will be able to transition into the Bachelor of Technology in Information Technology degree program at KPU. For more information see Information Technology: Bachelor of Technology (https://calendar.kpu.ca/programs-az/business/information-technology/information-technology-bt/).

Upon completion of the Computer Information Systems certificate program students are encouraged to pursue the Computer Information Systems diploma program and subsequently, the Bachelor of Technology in Information Technology degree, to strengthen their IT skills and broaden their career options. Students interested in the CISY diploma and/or the BTECH degree program should consult a Melville School of Business Advisor for course planning assistance.

With proper course planning CISY students may complete some requirements which can be used in the following KPU degrees:

- Bachelor of Business Administration in Entrepreneurial Leadership (https://calendar.kpu.ca/programs-az/business/entrepreneurial-leadership/entrepreneurial-leadership-bba/)
- Bachelor of Business Administration in Human Resources Management (https://calendar.kpu.ca/programs-az/business/human-resources-management/human-resources-management-bba/)
- Bachelor of Administration in Marketing Management (https://calendar.kpu.ca/programs-az/business/marketing/marketing-management-bba/)

Specific features of these programs include:

- Recently revised curriculum with contemporary course content
- Practical projects in most courses
- Course offerings during the day and in the evenings for Fall, Spring and Summer semesters to provide maximum flexibility for student schedules
- Co-op opportunities with a wide range of employers while still earning a diploma
- Professional networking opportunities to prepare for employment after graduation

Please visit kpu.ca/business/programs-and-courses (http://www.kpu.ca/business/programs-and-courses/) for more information on School of Business programs.

Who Studies Computer Information Systems?

These programs are designed for students interested in pursuing a career in one of the many fields within the Information Technology sector. At a minimum, students entering the program should have completed high school Math 11 Foundations with a C+ or a KPU equivalent MATQ qualifying course or have achieved an equivalent result on KPU's Math Placement Test.

Career Opportunities

Graduates of this program may find employment in the following areas:

- Network administration
- Systems and user support
- Database design and management
- Systems analysis and design
- Software development
- Web design and development
- Technical documentation
- C# & Java Programming

Programs

- Diploma in Computer Information Systems (https://calendar.kpu.ca/programs-az/business/computer-information-systems/computer-information-systems-diploma/)
- Certificate in Computer Information Systems (https://calendar.kpu.ca/programs-az/business/computer-information-systems/computer-information-systems-certificate/)

Courses

Registration in some course sections is restricted to students in particular programs. See Timetables - kpu.ca/registration/timetables (http://www.kpu.ca/registration/timetables/) - for current section information.

Visit the BC Transfer Guide - bctransferguide.ca (https://www.bctransferguide.ca/) - for information about course transfer in B.C.

INFO 1111 3 credits
Introduction to Computer Hardware and Software
Students will learn general computer hardware and software concepts. They will study the general architecture of the computer and examine hardware components such as microprocessors, memory, motherboards, expansion buses, power supplies, hard disk drives, removable media, peripherals, input/output devices, video, audio, and network interface cards. They will compare differences between hardware used in enterprise, personal and mobile computing devices. Students will also study the functions of operating systems and device drivers and will be provided an overview of popular application software.
Level: UG
Attributes: ASTR (https://calendar.kpu.ca/courses-az/#astrtext), BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 1112 3 credits
Principles of Program Structure and Design I
Students will learn the fundamental concepts and structure of computer programs. They will develop skills in different aspects of the problem-solving and programming process including analyzing requirements, designing solutions, coding, testing and writing documentation with emphasis on structured programming and modular design techniques. Students will be required to design and implement a software application. This course is equivalent with CPSC 1103. Students may earn credit for only one of these courses.
Level: UG
Prerequisite(s): Level E1 as defined in the Math Alternatives Table (https://calendar.kpu.ca/course-information/mathematics-alternatives-table/)
Cross-listing: CPSC 1103
Attributes: ASTR (https://calendar.kpu.ca/courses-az/#astrtext), BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 1113 3 credits
Systems Analysis and Design
Students will study current strategies, methodologies and techniques of systems analysis and design with an emphasis on the role of systems analysts in an organization and collaboration within the overall process. Students will learn how to elicit general information system requirements, perform object-oriented system analysis and design, and generate user documentations. Students working in groups will analyze and design small information systems using object-oriented methodology. Students will examine from an ethical perspective issues specific to information technology professionals, such as intellectual property, access, security and protection of private information, and codes of conduct.
Level: UG
Prerequisite(s): Level E1 as defined in the Math Alternatives Table (https://calendar.kpu.ca/course-information/mathematics-alternatives-table/)
Attributes: ASTR (https://calendar.kpu.ca/courses-az/#astrtext), BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 1211 3 credits
Operating Systems Principles And Applications
Students will learn the fundamentals of operating systems and system utilities. They will study principles such as operating system architecture, input/output systems, file systems, process management and thread management. Students will work with multi-user, multi-tasking operating systems such as Windows, UNIX and Linux.
Level: UG
Prerequisite(s): INFO 1111 and Level E1 as defined in the Math Alternatives Table (https://calendar.kpu.ca/course-information/mathematics-alternatives-table/).
Attributes: ASTR (https://calendar.kpu.ca/courses-az/#astrtext), BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 1212 3 credits
Networking Technologies I
Students will learn the fundamental architecture, functions and components of computer networks. They will build local area networks with routers and switches and implement Internet Protocol (IP) addressing schemes.
Level: UG
Prerequisite(s): INFO 1111 and Level E1 as defined in the Math Alternatives Table (https://calendar.kpu.ca/course-information/mathematics-alternatives-table/)
Attributes: ASTR (https://calendar.kpu.ca/courses-az/#astrtext), BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 1213 3 credits
Web Application Development
Students will learn the operating principles of the World Wide Web and its relationship with the Internet. They will learn the client-server model, Internet protocols, domain names and URLs, websites, and Web hosting. They will also learn HTML, CSS, and JavaScript. Students will program both in client and server-side environments and develop data-driven Web applications. They will also learn to deploy applications on web hosting servers.
Level: UG
Attributes: ASTR (https://calendar.kpu.ca/courses-az/#astrtext), BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 1214 3 credits
Discrete Mathematics for Information Technology
Students will learn the basic mathematical concepts which form the foundations of computing systems. They will be able to apply mathematical logic and methods to software development. They will learn the principles and applications of discrete mathematics, data organization and data representation.
Level: UG
Prerequisite(s): Level E1 as defined in the Math Alternatives Table (https://calendar.kpu.ca/course-information/mathematics-alternatives-table/).
Attributes: ASTR (https://calendar.kpu.ca/courses-az/#astrtext), BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 2311 3 credits
Networking Technologies II
Students will learn the operation details of routers and switches in small to medium size computer networks. They will acquire skills for configuring and troubleshooting routers and switches. They will also develop skills in resolving common issues which exist when routing between different protocols.
Level: UG
Prerequisite(s): INFO 1212
Attributes: ASTR (https://calendar.kpu.ca/courses-az/#astrtext), BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 2312 3 credits
Database Systems
Students will learn the concepts and theory of database models, with particular emphasis on the relational model. They will learn and practice database design utilizing Entity-Relationship Modeling and/or Normalization. Students will learn Structured Query Language (SQL) and use SQL statements to design, query, and maintain databases, as well as the basics of the Java/Python API for connecting Java/Python code to a database.
Level: UG
Prerequisite(s): (a) INFO 1112 or CPSC 1103 and (b) INFO 1113
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 2313 3 credits
Principles of Program Structure and Design II
Students will learn fundamental programming design and implementation concepts in the context of object-oriented programming. Students will review elementary concepts and learn more advanced concepts such as: data structures, objects, object interaction, inheritance, polymorphism, interface, abstract classes, and exception handling. Students will also be introduced to concepts and design principles of event-driven programming and graphical user interfaces. Students will learn methods for good analysis, design and style. This course is equivalent with CPSC 1204. Students may earn credit for only one of these courses.
Level: UG
Prerequisite(s): INFO 1112 or CPSC 1103
Cross-listing: CPSC 1204
Attributes: ASTR (https://calendar.kpu.ca/courses-az/#astrtext), BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 2315 3 credits
Data Structure
Students will learn the data structures and associated algorithms commonly used in system development. They will learn Application of Linked Lists, Stacks, Queues, Binary Trees, Balanced Trees, Searching of Tress, Lists, Inverted Lists, Multi-lists and Graphs. These are the fundamental tools available for contemporary programming languages for implementation of complex algorithms. This course is equivalent with CPSC 2302. Students may earn credit for only one of these courses.
Level: UG
Prerequisite(s): INFO 2313 or CPSC 1204
Cross-listing: CPSC 2302
Attributes: ASTR (https://calendar.kpu.ca/courses-az/#astrtext), BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 2411 3 credits
Foundations of Computer Security
Students will learn fundamental concepts, theories, methodologies and techniques of computer and network security. Students will gain an understanding of the importance of security within and between organizations, including the ongoing threats and vulnerabilities on networks. In this course the significance of being ethical is emphasized. It covers the aspects of systems security from the perspective of providing security mechanisms for protecting networks. Students will learn several software tools and techniques related to computer security using mechanisms such as cryptographic systems, authentication and access control methods. Different types of network and computer attacks are studied. Tools to discover network designs, functionality, resources and vulnerabilities are introduced.
Level: UG
Prerequisite(s): (a) INFO 1112 or CPSC 1103 and (b) INFO 1212
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 2413 3 credits
System Development Project
Students will work on real-world computer information system projects on a team basis. They will integrate computer and system concepts learned in the first two years of the program to analyze project requirements, design and implement a software based information system using appropriate tools.
Level: UG
Prerequisite(s): All of (a) INFO 2312 (b) INFO 2313 or CPSC 1204 and (c) 15 credits from courses in INFO at the 1100 level or higher.
Attributes: ASTR (https://calendar.kpu.ca/courses-az/#astrtext), BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 2416 3 credits
Server Operating Systems
Students will learn the principles, techniques and strategies used in planning, installing, testing, and administering a server operating system. Students will learn to create and manage user accounts using Active Directory, and to install and configure server roles including DHCP (Dynamic Host Configuration Protocol) server, DNS (Domain Name System) server, printer server, web server, and VPN (Virtual Private Network) server. Students will be required to plan, design, and install an application server to simulate real-world scenarios. Students will have hands-on experience in installing, troubleshooting, fine-tuning, and administering a server operating system.
Level: UG
Prerequisite(s): INFO 1211 and INFO 1212
Attributes: ASTR (https://calendar.kpu.ca/courses-az/#astrtext), BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 3110 3 credits
Professional Communications in Information Technology
Students will address the activities and techniques for developing proposals, specifications, user guides, reports, memoranda, executive summaries and other documentation commonly used in information technology. Students will present a variety of individual and group written and oral communication assignments, reflecting current Information Systems models.
Level: UG
Prerequisite(s): All of (a) CMNS 1140 (b) ENGL 1100 and (c) 9 credits from courses in INFO at the 2000 level or higher
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 3120 3 credits
Web Programming with Java
Students will learn the syntax, resources and utilities package of Java related to web applications. Students will also examine web design principles, apply their knowledge to construct web components, including Java Server Pages (JSP), Servlets and JavaBeans for both Internet and Intranet environments, and implement dynamic web applications using a Java web server and a relational database management system.
Level: UG
Prerequisite(s): 30 credits from courses at the 1100 level or higher, or permission of the instructor.
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 3135 3 credits
Advanced Web Application Development
Students will learn PHP and MySQL and use them to develop dynamic, secure and commercially usable websites. They will learn the basics of PHP and MySQL and will also learn how to access the data in a MySQL database through the Web using PHP. The students will be able to develop complete applications using PHP and MySQL.
Level: UG
Prerequisite(s): All of (a) 6 credits from courses in INFO at the 2000 level, (b) INFO 1213, (c) INFO 2313 or CPSC 1204, and (d) INFO 2312
Attributes: ASTR (https://calendar.kpu.ca/courses-az/#astrtext), BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 3150 3 credits
Object-Oriented Software Engineering
Students will learn the methods of identifying system requirements and producing object models and designs based on the requirements. They will learn the concepts of Unified Modeling Language (UML). They will identify use cases and expand them into object-oriented designs. Students will use the concepts of software engineering to analyze, design and implement software systems. The students will also be introduced to the concepts of Agile Software Development.
Level: UG
Prerequisite(s): All of (a) 6 credits from courses in INFO at the 2000 level and (b) INFO 2313 or CPSC 1204
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 3171 3 credits
System Security
Students will learn fundamental concepts, theories and practical skills of system security. This course covers vulnerabilities of operating systems and covers how systems can be penetrated. Students will learn digital data integrity to ensure the data is unchanged. It also covers data security, network security, web server security and web application security. Tools to discover network designs, functionality, resources, and vulnerabilities are introduced. Security mechanisms for protecting networks are evaluated and security planning is considered. In this course the significance of being ethical is emphasized.
Level: UG
Prerequisite(s): INFO 2411 and 6 credits from courses in INFO at the 2000 level
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 3180 3 credits
Wireless Networks
Students will learn the concepts and practical skills of wireless local area networks (WLANs). They will learn the fundamentals of radio frequency (RF) signals, mathematical skills required in RF signal power calculations, wireless antennas, antenna accessories, and spread spectrum technologies. The students will also learn WLAN infrastructure devices, WLAN organizations and standards, WLAN network architectures, wireless site survey and WLAN troubleshooting techniques. The course will also cover wireless technology topics such as Wi-Fi 6 and Wi-Fi 7, mesh networking, intro to the WPA3 security, cloud-managed wireless networks, and how WLANs work with IoT devices and 5G networks.
Level: UG
Prerequisite(s): INFO 2311 plus 6 credits from courses in INFO at the 2000 level
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 3225 3 credits
Web Multimedia
Students will learn the different types of multimedia (e.g. text, images, sound, animation and video) required in website development. They will learn the theoretical foundations and the practical tools for creating graphics, sound, animation and video content that will be used in websites, as well as multimedia design considerations.
Level: UG
Prerequisite(s): All of (a) 9 credits of courses in INFO at the 2000 level, (b) INFO 1213 and (c) INFO 2313 or CPSC 1204
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 3235 3 credits
Software Quality Assurance
Students will learn the essential features involved in developing timely, cost-effective and high-quality software products that meet the user's requirements. They will examine the effective deployment of quality assurance procedures throughout the entire software development process. They will learn the concepts of Total Quality Management (TQM), the development of quality assurance plans, the implementation of verification and validation functions, the selection of tools to support quality assurance, the application of software metrics to measure quality, and the International Standards Organization (ISO) certification process.
Level: UG
Prerequisite(s): INFO 3150
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 3240 3 credits
Enterprise Resource Planning Systems
Students will learn the concepts in Enterprise Resource Planning (ERP). They will learn the basis of how integrated information systems such as ERP systems can help companies to optimize business processes. Students also will learn business process modeling, process improvement and ERP implementation. They will explore the role of ERP in electronic commerce. Students will gain hands-on experience through working on an ERP system.
Level: UG
Prerequisite(s): 9 credits from courses in INFO at the 2000 level
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 3245 3 credits
Mobile Programming
Students will learn the skills for developing Android-based mobile applications. They will be introduced to the basics of wireless technologies associated with a smartphone such as cellular networks, Wi-Fi networks, satellite networks, and GPS systems. They will learn the Android fundamentals and the methods for designing and developing Android software programs for database, audio, video and communication applications.
Level: UG
Prerequisite(s): All of (a) 9 credits from courses in INFO at the 2000 level and (b) INFO 2313 or CPSC 1204
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 3250 3 credits
Content Management and Information Architecture
Students will learn the concepts of content management and information architecture. They will learn to apply the enterprise content management (ECM) methodology for managing digital assets, records, and knowledge throughout an organization. They will learn how to analyze and plan ECM solutions based on an organizations needs and business requirements. Students will also learn to design information architecture and implement taxonomy in organizing content throughout the information life cycle.
Level: UG
Prerequisite(s): 9 credits from courses in INFO at the 2000 level
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 3280 3 credits
Information Technology Project Management
Students will learn topics in Information Technology (IT) project management. They will examine various issues related to the development and implementation of complex information systems. Students will explore the use of new technologies in IT project management and will use a project management software tool to complete assignments, case studies and a term project.
Level: UG
Prerequisite(s): 9 credits from courses in INFO at the 2000 level
Attributes: ASTR (https://calendar.kpu.ca/courses-az/#astrtext), BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 3390 3 credits
Networking Technologies III
Student will learn the architecture, components, and operations of routers and switches in a larger and complex network. They will configure and troubleshoot routers and switches and resolve common issues related to routing and switching in both Internet Protocol version 4 (IPv4) and Internet Protocol version 6 (IPv6) networks.
Level: UG
Prerequisite(s): 9 credits from courses in INFO at the 2000 level or higher, including INFO 2311
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 4105 3 credits
Search Engine Principles
Students will learn the principles of search engines and information retrieval. Information filtering and retrieval drive some of the world's most successful and high-tech businesses. Students will learn various methods of search engine optimization (SEO), ranging from theory to implementation. Students will learn how to use tools and methods to perform searches and utilize results effectively. They will also learn how large data sources such as social media affect information retrieval.
Level: UG
Prerequisite(s): INFO 3135 plus 9 credits from courses in INFO at the 3000 level
Attributes: ASTR (https://calendar.kpu.ca/courses-az/#astrtext), BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 4110 3 credits
Cloud Computing
Students will learn cloud computing basics, benefits and limitations, cloud computing technologies (hardware and infrastructure), cloud accessing technologies, cloud storage, standards in cloud computing, software as a service, platform as service and cloud application development.
Level: UG
Prerequisite(s): INFO 3390 plus 12 credits from courses at the 3000 level
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 4115 3 credits
Human Factors and Website Design
Students will learn computer interface design requirements based on perceptual and cognitive factors; learnability; recall, recognition and retention; speed and accuracy of performance, and apply them in Web design process. They will learn website planning and design, usability, website navigation design, graphics and color selection, text formatting using cascaded style sheet (CSS), browser compatibility testing and interactivity design using JavaScripts.
Level: UG
Prerequisite(s): INFO 3135 plus 9 credits from courses in INFO at the 3000 level
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 4120 3 credits
Digital Forensics
Students will learn the foundations of digital forensics. They will learn the key technical concepts, the methodologies used and the tools needed in digital forensics. Students will learn how to perform examinations for computers, networks, mobile devices, GPS, the Cloud and the Internet. Students will also learn how to collect evidence, document the scenes, and recover deleted data.
Level: UG
Prerequisite(s): All of (a) INFO 3171 and (b) 9 credits from courses in INFO at the 3000 level
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 4125 3 credits
Website and Cloud Security
Students will learn the core mechanisms and tools for Web and cloud security. They will learn the principles of Web attacks on authentication, users, application servers, data stores, back-end components, application logic and bypassing client side controls. They will learn how to discover and prevent Web security flaws during Web application development and measures to improve Web security. They will also learn how to identify and resolve the security issues specific to public and private clouds.
Level: UG
Prerequisite(s): INFO 2411 plus 12 credits from courses in INFO at the 3000 level
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 4190 3 credits
Integration Project I
Students will conduct an extensive literature review and research for projects originating from faculty or the stakeholders from the industry or local communities. Students will carry out detailed project designs and complete the overall project design documentation in this capstone course. They will report the design results through presentations that are open to all faculty and students in the department and industry sponsors. Students will apply in great depth and breadth the system, hardware, software and project management knowledge they learned in the program to the accomplish the tasks of the project. Note: This course is a prerequisite for INFO 4290 Integration Project II where the students will implement their designs using software and/or hardware.
Level: UG
Prerequisite(s): 24 credits from courses in INFO at the 3000 level
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 4235 3 credits
Special Topics in Web and Mobile Application Development
This course offers selected topics on web and mobile application development. The topics will be based on emerging industrial technologies, including but not limited to application design, service integration, system development, and application deployment on both web and mobile platforms. Students will learn novel concepts of web and mobile technologies required by the IT industry.
Level: UG
Prerequisite(s): INFO 3135, plus 9 credits from courses in INFO at the 3000 level.
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 4250 3 credits
Special Topics in Network Administration and Security
Students will learn special topics in network administration and security. This course is designed to cover emerging technologies that the department deems important but are not covered in other courses. Currently the course covers data center fundamentals. Topics include introduction to server farms, infrastructure protocols, security and load balancing, server health management, persistence mechanisms on load balancers and data center design.
Level: UG
Prerequisite(s): INFO 3160
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 4260 3 credits
Networking Technologies IV
Students will learn Wide Area Network (WAN) technologies and network services in a complex network. They will analyse and evaluate network devices and WAN technologies to meet network requirements. Students will also develop the knowledge and skills needed to implement Internet Protocol Security (IPSec) and Virtual Private Network (VPN) operations in large network.
Level: UG
Prerequisite(s): 12 credits from courses in INFO at the 3000 level or higher, including INFO 3390.
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 4290 3 credits
Integration Project II
Students will implement the project designs they produced in the course INFO 4190 (Integration Project I) using suitable software tools and selected hardware. They will test and debug the project implementations and generate the final system prototype and project documentation. They will report and demonstrate the final project results through presentations which are open to all faculty and students in the department, as well as industrial sponsors.
Level: UG
Prerequisite(s): INFO 4190
Attributes: ASTR (https://calendar.kpu.ca/courses-az/#astrtext), BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 4310 3 credits
Entrepreneurial Development in Information Technology
Students will gain an understanding of entrepreneurship fundamentals in the information technology sector, including business planning, financing and venture capital, operations, human resources, marketing and personal selling.
Level: UG
Prerequisite(s): 12 credits from courses in INFO at the 3000 level.
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 4330 3 credits
Data Warehousing and Data Mining
Students will examine the problems caused by having too much information and the methods, processes and tools for extracting useful information from multidimensional databases and data marts stored on different system platforms. They will also acquire the techniques for defining, selecting, implementing and evaluating data warehousing and data mining solutions for businesses.
Level: UG
Prerequisite(s): INFO 2312, plus 12 credits from courses in INFO at the 3000 level.
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 4370 3 credits
Security of Wireless Systems
Students will learn about wireless security technologies such as advanced user authentication, robust encryption, and intrusion prevention. They also will learn concepts of wireless discovery, wireless attack identification and monitoring, and wireless security policies and solutions. Students will be required to conduct research and analysis work on a project to solve real-world wireless system security problems in a simulated environment.
Level: UG
Prerequisite(s): INFO 3180 plus 9 credits from courses in INFO at the 3000 level
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)

INFO 4381 3 credits
Internet of Things and Applications
Students will learn the concepts of “Internet of Things” (IoT) and their related applications. The underlying principles and architectures of sensors and actuators are discussed. The course also examines IoT’s connectivity, platforms and different application domains. Data analytics and IoT system security are also explored in the course. In addition, students will do a course project using selected hardware, software and development tools.
Level: UG
Prerequisite(s): INFO 3180 and 9 credits from courses in INFO at the 3000 level
Attribute: BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)