COMPUTER INFORMATION SYSTEMS (CISY)

This is a list of the Computer Information Systems (CISY) courses available at Kwantlen.

CISY 1105 CR-3
PC Hardware and Applications
Students will develop a working knowledge of microcomputer hardware, operating systems and application software such as word processors, spreadsheets and database management systems in a windows graphical environment. They will research business opportunities, write project descriptions, and develop systems using the application software packages and prepare user documentation.

Transferable (refer to transfer guide)

CISY 1113 CR-3
Principles of Program Structure and Design
Students will learn the fundamental logic and structure of computer programs. They will develop skills on all aspects of the programming and problem-solving process including analyzing requirements, designing solutions, choosing user interface, coding, testing and documentation , with an emphasis on structured programming and modular design techniques. Students will be required to design and implement a software application using a .NET programming language.

CISY 1212 CR-3
Systems Analysis and Design
Students will study current strategies and techniques of systems analysis and design with an emphasis on the role of the systems analyst in an organization and the involvement of people in the overall process. Students will study: business as an information system, systems life cycle, project management, structured and object-oriented methodologies, information gathering techniques, analysis techniques, input design, output design, process modeling, data modeling and systems documentation.

CISY 1213 CR-3
Operating Systems Principles and Applications
Students will learn the fundamentals of operating systems, command line interfaces and system utilities. They will study the internal structures and operating principles common to all computer systems. They will work with single-user operating systems (DOS) as well as multi-user, multi-tasking systems (NT and Linux) with an emphasis on UNIX

Prerequisites: CISY 1105 or CISY 1113

CISY 1215 CR-3
Data Communications and Networking
Students will learn theoretical and practical aspects of data communications fundamentals and networking technologies within a local area network environment. They will gain hands-on experience on installation, configuration, and troubleshooting basic networking hardware and software. Students will also join the first and the second semester of the Cisco Networking Academy Program (CNAP) and work through a series of modules and labs regarding the basics of Ethernet technology, network media, routing fundamentals. Students will receive a certificate from Cisco upon successful completion of each of the two CNAP semesters.

Prerequisites: CISY 1105 or CISY 1113

CISY 1218 CR-3
Internet Application Development
Students will learn to plan, design, build, and deploy dynamic data-driven Web-based applications using the current Web development tools and methodologies. They will study the fundamental concepts in Web development such as Hypertext Markup Language (HTML), designing a web site using HTML tags and a Cascading Style Sheet (CSS) file, building a server-based website using ASP.NET, and providing back-end database support using ADO.NET. Students will be required to design and implement a server-side, data-driven e-Commerce Web site using ASP.NET and ADO.NET

Prerequisites: CISY 1113

CISY 1220 CR-3
Foundations in Applied Computing
The 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, data representation and machine instructions.

Prerequisites: PHIL 1150

CISY 2311 CR-3
C/C++ Programming
Students will learn to program in the C/C++ language. Students will learn the syntax, structures and features of C++, with an introduction to C. Modular Program Design and Structured Programming Style will be stressed throughout the course. Students will learn and use Object Oriented Design and programming techniques.

Prerequisites: CISY 1113

CISY 2312 CR-3
Systems Development Methodologies
Students will learn contemporary software systems development using object-oriented methods. They will gain experience in applying the Unified Modeling Language (UML) to model software systems, and they will implement software systems with an object-oriented programming language. Students will be required to develop a business application for a real-life business using UML and an object-oriented programming language.

Prerequisites: CISY 1113 and CISY 1212

CISY 2313 CR-3
Data Communications
Students will learn the concepts, terminology, and capabilities of modern data communication networks. They will study topics on communications hardware and software components, layered network architectures, communication protocols and standards, data security and router protocols.

Prerequisites: CISY 1215

CISY 2314 CR-3
Database Management Systems
Students will learn the concepts and theory of database models, with particular emphasis on the relational model. They will learn and practice good database design utilizing Entity-Relationship Modeling, the analysis of functional dependencies, and database table normalization. Students will learn Structured Query Language (SQL) and use SQL statements to design, query and maintain databases.

Prerequisites: CISY 1212 and CISY 1113

CISY 2315 CR-3
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 Trees, Lists, Inverted Lists, Multi-lists and Graphs. These are the fundamental tools available for contemporary programming languages for implementation of complex algorithms.

Prerequisites: CISY 2311

CISY 2411 CR-3
GUI and Object-Oriented Programming
Students will learn the principles and concepts of programming using Java through a series of assignments and a major project. They will document and present the project results and conduct formal reviews with their peers.

Prerequisites: CISY 1113 or CISY 2311

CISY 2412 CR-3
Emerging Technologies
Students will learn the current developments in information technologies and the fundamental concepts underlying them. They will review selected topics such as: Web Programming, E-commerce, Database Connectivity and Network and Storage Technologies. Students will examine these concepts and use appropriate techniques to develop information systems.

Prerequisites: CISY 1218 and CISY 2313 and CISY 2411

CISY 2413 CR-3
Object-Oriented Software Engineering
Students will learn the key concepts of Computer-Aided Software Engineering (CASE) and Fourth Generation Languages (4GL). They will study the purposes of CASE and its relationships with software development methodologies, program development environment and application development platforms. Students will be required to carry out practical projects using contemporary CASE and 4GL tools.

Prerequisites: CISY 2312

CISY 2414 CR-3
Management of Information Systems
Students will learn the organization, planning and control of information systems, including: Strategic Plan, Contingency Plans, Security Plans, Evaluation of Information Systems, Project Management, Work Place Ergonomics, Human Factors and Systems Maintenance. They will also study the application of selected management science techniques such as Critical Path Method, Queuing Models, Inventory Control Models, Linear Programming and Transportation Methods.

Prerequisites: CISY 2312

CISY 2415 CR-3
Computer Project
Students will be assigned to real-world computer projects on a team basis. They will integrate computer and business concepts as learned in previous courses and build on their experience in the issues of group dynamics.

Prerequisites: CISY 2312 and CISY 2314 and CISY 2311

In the event of a discrepency between this document and the official Kwantlen 2012-13 Calendar (available at www.kwantlen.ca/calendar/2012-13), the official calendar shall be deemed correct.

2012-13 Calendar   **www.kwantlen.ca/calendar/2012-13**