Information Technology

Program Overview

Almost every aspect of life in today's business, education, and healthcare workforce relies increasingly on information technology (IT). As the world embraces new technologies, IT and related technical knowledge and skills have become even more important. A diploma in Information Technology is one of the pathways that help you become a vital and productive participant in the "Knowledge Economy."

The IT Professional is typically a member of a team that provides technical support and information for the organization. These teams work with stakeholders to analyze, plan, and implement problem-solving solutions in support of the organization's needs. The Information Technology Diploma provides a path leading to a challenging career in the ever-changing field of technology solutions.

Year 1

Courses Include:

Introduction to Business for IT Professionals

The course introduces the major components of business. Issues are discussed from the perspective of an Information Technology professional supporting the business environment. Major topic areas include the definition and formation of a business, stakeholder identification, entrepreneurship, business planning, business processes and the flow of information throughout a business. Ethics and social responsibility considerations in the operation and support of a business are stressed and serve to enhance the awareness of the developing IT professional regarding his/her role and responsibility in these matters.

Database Management Systems I

This course introduces students to the fundamentals of relational databases. The ability to work effectively with relational databases is an essential skill for any Information Technology professional. Students gain experience in basic database concepts, starting with design. Students learn to design databases using tools including Entity-Relationship Diagrams (ERDs) and Normalization. This study is followed by an elementary implementation of the design principles. Emphasis in the implementation is placed on using basic Structured Query Language (SQL) commands to create and manipulate the database. Students move on to design and development of a user-friendly front end using objects such as menus, forms, and reports. Students use popular database-building tools, which can include Oracle, MySQL and MS-Access.

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Courses Include:

Hardware I

This is an introduction to the hardware components that make up today's Personal Computer. This course deals with PC's that are based on the Intel IA32 platform. In this course students will learn about the characteristics and purposes of the basic components of a PC and will be able to disassemble and reassemble a typical PC.

Technical Communications

In this course students apply the principles of effective technical writing and reporting in the areas of document design, standards for abbreviations, rules for writing numbers, use of tables and graphs, and research and documentation methods. In addition, students use word processing (Word) and presentation (PowerPoint) packages to facilitate numerous course assignments.

Human Relations for IT Professionals

In this course, students focus on building and maintaining effective interpersonal and intrapersonal skills. This provides the foundation that students require to apply team-building skills and knowledge of management styles and group dynamics to other courses.

Project Management for IT

This course covers the basic theory and skills that introduce the students to the process of effective project management and the unique challenges of Information Technology (IT) projects and methodologies.

Cooperative Education

The Information Technology Diploma Program is eligible for optional Co-operative Education. Co-op is a NSCC credit course. Co-op provides an opportunity for paid employment between the first and second year of your program, while completing the learning outcomes of the course. Employers, as co-educators provide learning opportunities beyond the bounds of the classroom giving you a well-rounded education enriched by practical application. Co-op can be considered your "bridge" to the labour market. For more information, discuss this course option with your faculty advisor or Centre for Student Success.

Applied Portfolio Learning I

ICOM 3550 is the first of the campus-based applied learning experiences which may consist of work experience, directed studies, industry projects or applied research. It usually takes place in the final five weeks of the first academic year. Available options may vary from campus to campus.

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Website Development

This course focuses on introducing Internet technologies and providing a foundation for the design and implementation of web sites, and client-side scripting. This goal is achieved through development of basic concepts of problem solving, program logic, design techniques, and programming for the internet environment.

Internetworking I

This course covers the fundamental concepts common to all networks and focuses on investigation of the software, hardware and methodologies required to connect such a mixed environment. Students study the OSI model as it relates to the operation of various network devices and learns the role of devices such as network cards, hubs, switches and routers in constructing LANs and WANs. This course relies heavily upon training materials from Cisco Systems. The course is delivered by certified Cisco instructors. Students are enrolled in the Cisco Systems Academy as Cisco Certified Networking Associate (CCNA) candidates.

Operating Systems - Unix

This course delivers the skills and theory necessary to set up and manage a UNIX operating system. Applications and projects will allow students to apply these skills to relevant workplace activities. An elementary knowledge of Windows 2000 server is assumed.

Operating Systems - Windows

This course focuses on reviewing the purpose and theory behind the functions of an operating system (OS), and practicing computer skills such as the management of memory and files, scheduling of jobs, and communication with peripherals. Students gain an in-depth working knowledge of a Microsoft Windows OS currently in broad use with personal computers and develop skills in installing, maintaining, and troubleshooting an operating system.

Logic and Problem-Solving

This course provides a foundation for good problem-solving skills and an introduction to basic program design concepts. Analytical and critical thinking skills are emphasized throughout and emphasis is placed on applying problem-solving techniques to a wide variety of problems, particularly those in the IT and IS areas. Mathematic concepts to be applied include Boolean logic, sets and number systems.

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Courses Include:

Programming I

This course focuses on the development of basic programming skills required for implementation of applications developed in an event-driven language. This is achieved through an introduction to the elementary concepts of programming, problem solving, program logic and design techniques. Course design is based on a familiarity with the Windows operating environment and uses the Visual Basic environment.

Introduction to Systems Analysis & Design

This course explores the analysis and design phases of the system development life cycle, using structured and object-oriented methodologies and tools, and exploring the various roles within the system development team.