



INSTITUTE OF
TECHNOLOGY
DEVELOPMENT
OF CANADA

Information Technology, Software Development Program outline

2021

Information Technology, Software Development Program outline

Head quarter and Vancouver campus:
475 Granville Street, Vancouver, BC, V6C 1T1
Vernon Campus:
3104 – 30th Ave, Vernon, BC, V1T 2C2
Phone: +1(604) 558-8727
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Email: studying@itcanada.ca
Web: <https://www.itdcanada.ca>

Canadian (Local) Tuition	\$15500.00
International Tuition	\$20150.00
Canadian (Local) Registration fee Non- refundable	\$100.00
International Respiration fee Non- refundable	\$350.00

Apply online for scholarships/grants if available

<https://applynow.itdcanada.ca>



PROGRAM DESCRIPTION

Concentration 1:

General Programming

This diploma program focuses on preparing you to work as a programmer requiring the application of current industry policies, practices, procedures and tools.

Concentration 2:

Graphic and Web

This Co-op diploma program focuses on preparing you to work as a programmer specializing in graphical and web based applications, requiring the use of current industry policies, practices, procedures and tools.

Concentration 3:

E-Commerce

This Coop diploma program focuses on preparing the student to work as a programmer specializing in web based E-Commerce and E-Commerce applications requiring the use of current industry policies, practices, procedures and tools.

LEARNING OBJECTIVES

Concentration 1:

General Programming

Upon successful completion, students will have demonstrated the ability to apply theoretical knowledge and hands-on skills in industry standard programming languages, database design and application, fundamentals of object oriented programming, HTML, JavaScript and practical software applications.

Concentration 2:

Graphic and Web

Upon successful completion, students will have demonstrated the ability to apply theoretical knowledge and hands-on skills in industry standard programming languages, database design and application, fundamentals of object oriented programming, C sharp, visual basic, HTML, PHP, JavaScript, web design and Photoshop.

Concentration 3:

E-Commerce

Upon successful completion, students will have demonstrated the ability to apply theoretical knowledge and hands-on skills in industry standard programming languages, database design and application, fundamentals of object oriented programming, C sharp, visual basic, HTML, XML, PHP, JavaScript, web design and Photoshop.



ADMISSION REQUIREMENTS

- Grade 12 graduate or mature student status (British Columbia, 19 years or older)
- Meet minimum English language proficiency requirements, only one of the followings
 1. IELTS: 5.5 (or better) or
 2. TOEFL (paper): 520 (or better) or
 3. TOELF (CBT): 190 (or better) or
 4. TOEFL (IBT): 70 (or better) or
 5. Cambridge: CAE (or better) or
 6. Canadian High School Diploma or
 7. English 12 graduation certificate from a Canadian high school or
 8. Canadian LINK or ELSA program level 4 certificate
 9. CELPIP (Canadian English Language Proficiency Index Program) 3H or better
 10. CLB (Canadian Language Benchmark) 6 or better
 11. Pre-Intermediate (or better) Certificate from a Language Canada accredited school or
 12. Pre-Intermediate (or better) Certificate from any language school accredited by local authorities worldwide or
 13. Two years study in an English program that leads to a degree worldwide or
 14. BA, MA or PHD in English Language from a university worldwide or
 15. Student has TESOL, CELTA or DELTA certification or
 16. The student has lived and worked in an English-speaking country longer than 10 years or
 17. The student has spent at least two years studying in a secondary, post-secondary or higher education school in any program in a system where English is the official language of instruction or
 18. The student has passed ITD Canada's English Assessment Test (online with a proctor or in person) at the pre-intermediate level.
- English language proficiency test scores will only be accepted if they are dated within the last 4 calendar years from the programs start date.

DELIVERY METHODS

- In-class instruction
- Distance education
- Combined delivery (both in-class and distance)

PROGRAM DURATION

Total instructional hours	960
Total Co-op hours	0
Total program hours	960
Total program length (weeks)	48



GRADUATION REQUIREMENTS

- Successful completion of all program courses.
- Successful completion of program coop.

CAREER OPPORTUNITIES

Concentration 1:

General Programming

Upon successful completion graduates will be able to secure employment, for example, as application programmers, programmer analysts and software development programmers.

Concentration 2:

Graphic and Web

Upon successful completion graduates will be able to secure employment as, for example, web based application programmers, web developers and web programmers.

Concentration 3:

E-Commerce

Upon successful completion graduates will be able to secure employment as web based application programmers.



PROGRAM BREAKDOWN

Concentration 1:

General Programming

Course No.		Hours
ICR100	Information Technology Essentials	40
ICR110	Problem Solving and Analytical Thinking	40
ICR120	Markup Essentials	60
ICR130	Scripting for web development	60
ICR140	Databases Design and Modeling	40
IGP210	Rapid application Development	80
IGP220	Cross platform programming	80
IGP230	Proprietary scripting	80
IGP300	System Programming	60
IGP310	Object Oriented Programming	160
IGP320	System programming workshop	20
IGP330	Open Source scripting	60
IGP400	Computer Networks	60
IGP420	Portable programming	120

PROGRAM BREAKDOWN

Concentration 2:

Graphic and Web

Course No.		Hours
ICR100	Information Technology Essentials	40
ICR110	Problem Solving and Analytical Thinking	40
ICR120	Markup Essentials	60
ICR130	Scripting for web development	60
ICR140	Databases Design and Modeling	40
IGP210	Rapid application Development	80
IGP220	Cross platform programming	80
IGP230	Proprietary scripting	80
IGP300	System Programming	60
IGP310	Object Oriented Programming	160
IGP320	System programming workshop	20
IGP330	Open Source scripting	60
IND100	Art & Design Foundation	40
IGP400	Computer Networks	60
IGP410	Web Development portfolio	40
GRD110	Digital Imaging I	40



PROGRAM BREAKDOWN

Concentration 3: *E-Commerce*

Course No.		Hours
ICR100	Information Technology Essentials	40
ICR110	Problem Solving and Analytical Thinking	40
ICR120	Markup Essentials	60
ICR130	Scripting for web development	60
ICR140	Databases Design and Modeling	40
IGP210	Rapid application Development	80
IGP220	Cross platform programming	80
IGP230	Proprietary scripting	80
IEC300	Existing Technology on E-Commerce	40
IEC310	E-Business Model & Marketing	40
IEC320	Legal Issues & Online Transactions	40
IGP330	Open Source scripting	60
IGP400	Computer Networks	60
GRD110	Digital Imaging I	40
IEC400	Procedural E-commerce Web Building	40
ITN400	Markup and Data Serialization	40
ITN420	Network & Online Security	40
IGP410	Web Development portfolio	40
IEC500	E-commerce Portfolio	40

All Concentrations:

ICR100 Information Technology Essentials

This is an introductory to the basics of computer hardware, especially those components that are used frequently by programmers including RAM and CPU. Students will also be introduced to operating systems.

ICR110 Problem solving and Analytical Thinking

Understanding the language, grammar and syntax of a programming language is key to the application of that language in solving programming problems. All programming languages have been created around a fundamental set of language theories and conventions. This course introduces the student to theory and practice of programming and programming logic. This course does not introduce the student to a specific programming language but rather to the basic language, grammatical, and syntactical constructs and logic found in all programming languages. Students will solve programming problems using pseudo-code.



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ICR120 Markup Essentials

This course will introduce students to web page and simple website infrastructure. Students will construct simple webpage and websites using authoring tools, HTML 4.0 and JavaScript. Student will learn basic programming principles and best practices. Students will use their programming skills to enhance a web site they have developed by building simple interactive functionality into their webpages.

ICR130 Scripting for Web Development

You will learn how to create all of the key components required in a 21st century commercial web site. You will learn how to apply your HTML, CSS, and JavaScript skills in a commercial context.

ICR140 Databases Design and Modeling

This is an introductory database course. You will be introduced to the role and function of databases and to accepted dbase design and development methodologies. You will also be introduced to database software manipulation systems using Classic ASP and Microsoft Access tools.

All Concentrations:

IGP210 Rapid Application Development

In this course students learn how to create desktop applications using a rapid development tool - Visual Basic.Net. They will also be introduced to Object Oriented Programming.

IGP220 Cross Platform Programming

In this course students learn how to create desktop applications using C#.Net. Students will learn how to create windows based applications along with database connectivity. They will learn simple concepts of Object Oriented Programming and create multiple projects based on Object Oriented concepts in C#. Students will also learn Inheritance and polymorphism along with the concept of static and dynamic binding.

IGP230 Proprietary Scripting

In this course students learn how to create web form pages using ASP.net and Microsoft SQL Server 2008 Express. A variety of different controls to present and edit dynamic data on ASP.NET pages will be explored. Students will also work with Internet Information Services on Windows client platform and will finally deploy an ASP.NET website on IIS.

IGP330 Open Source Scripting

Hypertext Preprocessor (PHP) is one the popular open source programing languages for creating dynamic web sites. PHP is usually created using a MySql database. In this course students will learn how to install PHP and MySql on IIS and how to create dynamic web sites using PHP and MySql.

IGP400 Computer Networks

Computer networks allow for increased productivity and simplified instantaneous information sharing. The Internet, the World Wide Web and the 'cloud' continue build upon basic network theory and practice. This is an introductory course where you will learn to design and implement simple networks based on client needs, using existing network tools, practice and hardware.



Concentration 1:

General Programming

Concentration 2:

Graphic and Web

IGP300 System Programming

This course introduces students to basic C programming principles and structures. Students will learn to develop console applications in C while they learn the Visual Studio IDE. Pointers will be introduced. Students will learn how to use pointers to self-referential data structures.

IGP310 Object Oriented Programming

In this course students will learn object oriented terminology and concepts using C++. Students will learn to create classes and implement inheritance and polymorphism. Advanced concepts like templates and operator overloading are also discussed in this course.

IGP320 System Programming Workshop

In this course students will apply what they have learned to a programming problem.

Concentration 2:

Graphic and Web

Concentration 3:

E-Commerce

IGP410 Web Development Portfolio

HTML5 has been designed to simplify many of the processes and techniques used in HTML 4, and to add significant new functionality, simply, across a wide variety of devices. HTML 5 introduces new elements that assist with page structure, content and new phrasing tags that add new meaning to content within a page.

Concentration 2:

Graphic and Web

Concentration 3:

E-Commerce

GRD110 Digital Imaging I

This course introduces students to industry standard digital imaging software – Photoshop. Students will learn the fundamentals of digital image manipulation, editing tools and techniques.



Concentration 1:

General Programming

IGP420 Portable Programming

In this advanced course students will explore the Java language along with related Java classes from simple applets to advanced servlets. In this course students will also learn object oriented terminology and concepts. Students will learn to create classes and implement inheritance and polymorphism.

Concentration 2:

Graphic and Web

IND100 Art & Design Foundation

This is a survey course. In this course you will be introduced to the fundamentals of art and design. You will explore significant periods in art history with an emphasis of understanding period art and design themes and trends and how they influence communication, architecture, costumes, ornaments and entertainment today.

Concentration 3:

E-Commerce

IEC300 Existing Technology on E-Commerce

As E-commerce evolves, new technologies are being introduced and new web sites are implemented with them. This course is a comprehensive course that introduces and compares all existing platforms that an E-Commerce web site can be built and hosted with. In this course different operating systems, different web servers, and different CGI based programming languages are introduced and compared.

IEC310 E-Business Model & Marketing

This course will cover various aspects of running a business online (e-Business): SEO for e-Commerce and Shopify. Touching upon the basics of evaluating websites and identifying conversion goals, measuring and interpreting website analytics, get the most out of SEO, and set up first text and display ads. With a hands-on, practical approach, students will create a Shopify ecommerce website. Topics include, configuring tax and notification settings, setting up payment processing and shipping options, and adding inventory (digital or physical), customizing the look and feel of the store, processing orders and managing customer accounts.

IEC320 Legal Issues & Online Transactions

Ecommerce has evolved and has become a major marketing force for most business in most countries around the world. Given licensing regulations set forth by governments and the evolving state of information access technology what applies in one country may not in another. In this course students will be introduced to the broad spectrum of legal issues related to ecommerce focusing on online fraud, security of personal information, encryption, intellectual property, and cyber-crime.



Concentration 3:

E-Commerce

IEC400 Procedural E-commerce Web Building

This course is intended to cover the entire process required for modern E-Commerce website development and is suitable for intermediate to upper-level computing students. It covers both the concepts and the practice of the entire scope of web development and focused on the web development reality of today's world and in anticipation of future trends. The course comprises of realistic and engaging case studies.

ITN400 Markup and Data Serialization

Extensible Markup Language is a markup language that defines a set of rules for documents in a format which is human and machine-readable. XML is a software and hardware independent tool for storing and transporting data. In this course student learn how to create XML files and how to extract XML data in a programming language. Students also learn to transfer data in between computers using XML files.

ITN420 Network and Online Security

In a hyper-interconnected world where the majority of transactions occur via web or app enabled technologies, data and application security is of strategic importance to companies of all sizes. In this course you will learn methods for securing servers, services and applications running on Windows 2008 Server.

IEC500 E-Commerce Portfolio

Prepare for your career in the E-Commerce by producing an online and print portfolio targeted for future career plans or for obtaining new clients for own freelancing contracting purposes. This course will also include introduction to preparation and presentation techniques.

Methods of Evaluation

Course grading is indicated on each course outline. Generally, assessment will consist of quizzes, exams, and assignments.

Required Course Material

Not all courses may have textbooks. Textbooks are listed on the course outline. Textbooks may not be available through the college.

Equipment

Computer and requisite software are provided at the college. No other equipment is required unless otherwise indicated on the course outline.

Program

Course currency and relevancy may change depending on the requirements of industry. The school may make changes at any time. Changes will be effective when made.

Other

For proof of *English Language Proficiency* please refer the Student Handbook.