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CSTP 1302: Windows Programming

EFFECTIVE DATE

September 2019

DEPARTMENT

Computer Systems Tech Diploma

DESCRIPTION

In this course students will become familiar with the basics of Windows in general and specifically Windows 10 capabilities from a developer's point of view. Students learn to develop applications with Windows 32 Bit (Win32) Application Programming Interface (API) using C or C# programming language. Later they will learn how to integrate Win32 calls into C# by creating unmanaged C# applications. Topics include Windows messaging, input from keyboard and mouse, timers, menus and resources, dialog boxes, clipboard, graphics, threading, accessing the microphone and speakers, and working with dynamic link libraries.

CREDITS

4.0

YEAR OF STUDY

1st Year Post-secondary

PREREQUISITES

CSTP 1205 Programming in C++

COREQUISITES

None

COURSE LEARNING OUTCOMES

Upon successful completion of this course, students will be able to:

- Explain the basic functionalities of each component of Windows Operating System
- Explain how messages are processed in Win32
- Capture keyboard, mouse, and timer events
- Explain and use device contexts, clipping window, brushes, etc. for standard graphics
- Add menus, buttons, and other child windows
- Create dialog boxes using the Visual Studio editor and use these dialog boxes in an application
- Use device independent bitmaps

- Demonstrate the basics of concurrent programming under windows O/S with common synchronization methods
- Debug programs using a variety of methods including break points, traces, and code stepping
- Integrate Win32 and C# creating unmanaged C# code

PRIOR LEARNING ASSESSMENT & RECOGNITION (PLAR)

None

HOURS

Lecture: 30

Lab: 50

INSTRUCTIONAL STRATEGIES

Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

GRADING SYSTEM

Letter Grade (A-F)

PASSING GRADE

C

EVALUATION PLAN

Type	Percentage	Assessment activity
Other	5	Project proposal
Assignments	50	
Project	25	
Final Exam	20	

COURSE TOPICS

- Window application development tools
- Windows applications: basic user interface concepts
- Windows application that interacts with other Applications
- Windows application that stores and accesses data on a device
- Windows application that uses input devices

- Win32 API
- C# unmanaged code interaction with Win32 applications
- Dynamic link library usage in Windows Applications

LEARNING RESOURCES

None

Notes:

- Course contents and descriptions, offerings and schedules are subject to change without notice.
- Students are required to follow all College policies including ones that govern their educational experience at VCC. Policies are available on the VCC website at:
<https://www.vcc.ca/about/governance--policies/policies/>.
- To find out how this course transfers, visit the BC Transfer Guide at <https://www.bctransferguide.ca>.

Broadway campus

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Downtown campus

250 West Pender Street
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