

C++ Course Outline

C++ Course Outline		Points Possible	Course Hours
Course Overview			4
Lab 1: Start the Course			
	<i>Identify computer requirements.</i>		
	<i>Learn how to move through the course.</i>		
	<i>Switch between windows.</i>		
Lab 2: Set Up Your Computer			
	<i>Find files and folders on a computer.</i>		
	<i>Set up a computer to show the List folder view and file name extensions.</i>		
	<i>Make a course folder.</i>		
Lab 3: Set Up a Browser and Install 7-Zip			
	<i>Set up a Web browser.</i>		
	<i>Download and install a zip utility.</i>		
Lab 4: Download Resources and Zip Assignments			
	<i>Get the course resources.</i>		
	<i>Install software.</i>		
	<i>Learn about finding, completing, and turning in assignments.</i>		
	<i>Zip and unzip files and folders.</i>		
Project 1: Hello World			10
Lab 1: Open and Save a Project			
	<i>Open a C++ project in Visual C++.</i>		
	<i>Insert a comment.</i>		
	<i>Save a C++ project.</i>		
Lab 2: Libraries and Namespaces			
	<i>Use the #include command to include a library.</i>		
	<i>Use the using command to use the standard (std) namespace.</i>		
Lab 3: Insert the main () Function			
	<i>Insert a main () function.</i>		
	<i>Use the cout command to output text to the screen.</i>		
Lab 4: Debug Your Program			
	<i>Compile a C++ program.</i>		
	<i>Debug a C++ program.</i>		
	<i>Create an .exe of a C++ program.</i>		
	<i>Run a C++ program.</i>		
Quiz Study Guide			
	<i>Review the quiz study guide before taking the quiz.</i>		
Quiz 1			
	<i>Project 1 Quiz.</i>	5	
Assignment 1			
	<i>See assignment description document for detailed instructions.</i>	4	

Project 2: Calculator		11
Lab 1: Set Up the Project		
	<i>Include the iostream library.</i>	
	<i>Use the standard (std) namespace.</i>	
	<i>Insert the main () function.</i>	
Lab 2: Variables		
	<i>Declare a variable.</i>	
	<i>Use a float variable to store a number with a decimal point.</i>	
	<i>Use a cout command to print a variable's value to the screen.</i>	
	<i>Store a variable as the value of another variable.</i>	
Lab 3: Input		
	<i>Use the endl command to insert a line break in text on the screen.</i>	
	<i>Use the cin command to get input from the user.</i>	
Lab 4: The if () Statement		
	<i>Use an int variable to store an integer.</i>	
	<i>Use an if () statement.</i>	
	<i>Indent code to match guidelines.</i>	
Lab 5: Operators		
	<i>Use the - operator to subtract.</i>	
	<i>Use the * operator to multiply.</i>	
	<i>Use the / operator to divide.</i>	
Quiz Study Guide		
	<i>Review the quiz study guide before taking the quiz.</i>	
Quiz 2		
	<i>Project 2 Quiz.</i>	5
Assignment 2		
	<i>See assignment description document for detailed instructions.</i>	7

Project 3: Guess the Number		10
Lab 1: Set Up Your Project		
	<i>Set up a console project.</i>	
	<i>Declare two int variables.</i>	
	<i>Add and test an if () statement.</i>	
Lab 2: Comparisons		
	<i>Use the > (greater than) comparison operator.</i>	
	<i>Use the < (less than) comparison operator.</i>	
Lab 3: Loops		
	<i>Use a while () loop to repeat sections of code.</i>	
	<i>Use Visual C++'s Increase Indent button to indent code.</i>	
	<i>Use the != conditional operator to compare two values.</i>	
	<i>Initialize a variable.</i>	
Lab 4: Random Numbers		
	<i>Use the rand () function to insert a seemingly random number.</i>	
	<i>Use the srand () function to seed the rand () function.</i>	
	<i>Use the % (modulo) operator to limit the span of a random number.</i>	
Quiz Study Guide		
	<i>Review the quiz study guide before taking the quiz.</i>	
Quiz 3		
	<i>Project 3 Quiz.</i>	5
Assignment 3		
	<i>See assignment description document for detailed instructions.</i>	7

Project 4: Tic Tac Toe		13
Lab 1: Arrays		
	<i>Create a new console project.</i>	
	<i>Declare a char variable.</i>	
	<i>Convert a variable into an array.</i>	
	<i>Store values in an array.</i>	
Lab 2: Functions		
	<i>Declare a function.</i>	
	<i>Write a function.</i>	
	<i>Declare a global variable.</i>	
	<i>Call a function.</i>	
Lab 3: Strings		
	<i>Declare a string variable.</i>	
	<i>Store a value in a string variable.</i>	
	<i>Comment at the end of a line.</i>	
	<i>Insert an else statement.</i>	
Lab 4: Switch Case Statements		
	<i>Use a switch case statement.</i>	
	<i>Use a break command.</i>	
Lab 5: Pass a Variable to a Function		
	<i>Declare a function that returns a value.</i>	
	<i>Use the return command to return a bool value.</i>	
	<i>Pass a variable to a function.</i>	
	<i>Use a do while () loop.</i>	
Lab 6: Develop a Function		
	<i>Develop a function that detects eight ways to win the game.</i>	
	<i>Use an if else () statement.</i>	
Lab 7: The ++ Operator		
	<i>Use the ++ operator to increment a variable.</i>	
	<i>Use an int variable to count the number of times a loop runs.</i>	
Quiz Study Guide		
	<i>Review the quiz study guide before taking the quiz.</i>	
Quiz 4		
	<i>Project 4 Quiz.</i>	5
Assignment 4		
	<i>See assignment description document for detailed instructions.</i>	9

Project 5: Quiz Show		12
Lab 1: Make a Title Screen		
	<i>Use a /* */ comment to write a comment on multiple lines.</i>	
	<i>Create a title screen that displays the name of the program and who wrote it.</i>	
Lab 2: Add an Object		
	<i>Define a class.</i>	
	<i>Create an object.</i>	
	<i>Declare private variables of a class.</i>	
	<i>Declare a public method of a class.</i>	
	<i>Write and call a method.</i>	
Lab 3: Write a Method		
	<i>Declare, write, and call a method.</i>	
	<i>Use global variables in a method.</i>	
Lab 4: Add a for () Loop		
	<i>Initialize variables for a starting high scores list.</i>	
	<i>Use a for () loop to repeat code five times.</i>	
Lab 5: Read and Write to a File		
	<i>Create an input and output file stream.</i>	
	<i>Close and open an input file stream.</i>	
	<i>Close and open an output file stream.</i>	
	<i>Read information from a text file.</i>	
	<i>Write information to a text file.</i>	
Lab 6: Add More for () Loops		
	<i>Use the -- operator to decrement a variable.</i>	
	<i>Write for () loops with complex conditions.</i>	
Quiz Study Guide		
	<i>Review the quiz study guide before taking the quiz.</i>	
Quiz 5		
	<i>Project 5 Quiz.</i>	5
Assignment 5		
	<i>See assignment description document for detailed instructions.</i>	9

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Project 6: Visual Hello World		7
Lab 1: Create a Windows Forms Project		
	<i>Create a Windows forms project in Visual C++.</i>	
	<i>Save the project.</i>	
	<i>Explore interactive features of the default Windows forms project.</i>	
Lab 2: Add a Button		
	<i>Add a button.</i>	
	<i>Create a message box that appears when the button is clicked.</i>	
Lab 3: Design Your Window		
	<i>Change a window's title.</i>	
	<i>Change a window's background color.</i>	
	<i>Change a button's font.</i>	
	<i>Resize a button and a window.</i>	
	<i>Move a button.</i>	
Quiz Study Guide		
	<i>Review the quiz study guide before taking the quiz.</i>	
Quiz 6		
	<i>Project 6 Quiz.</i>	5
Assignment 6		
	<i>See assignment description document for detailed instructions.</i>	6

C++ Course Outline

Project 7: Organizer Part I		10
Lab 1: Add a Menu		
	<i>Create a Windows forms project.</i>	
	<i>Add a menu strip.</i>	
	<i>Add a menu.</i>	
	<i>Add a menu option.</i>	
Lab 2: Add a Data Grid		
	<i>Add a dataGridView object.</i>	
	<i>Edit the data grid's properties.</i>	
	<i>Add columns to a data grid.</i>	
Lab 3: Create an XML File		
	<i>Create an XML file.</i>	
	<i>Add an XML file to a Visual C++ project.</i>	
	<i>Add XML elements and attributes to an XML file.</i>	
Lab 4: Get Data From an XML File		
	<i>Use the XML namespace.</i>	
	<i>Declare and create a DataSet object.</i>	
	<i>Program a data grid to get data from a DataSet object.</i>	
Quiz Study Guide		
	<i>Review the quiz study guide before taking the quiz.</i>	
Quiz 7		
	<i>Project 7 Quiz.</i>	5
Assignment 7		
	<i>See assignment description document for detailed instructions.</i>	8

C++ Course Outline

Project 8: Organizer Part II			13
Lab 1: Add a Form			
	<i>Add a second form to a project.</i>		
	<i>Create a form object.</i>		
	<i>Use the ShowDialog () command to make the form appear.</i>		
Lab 2: Design a Form			
	<i>Add text boxes and labels to a form.</i>		
	<i>Create an Add and a Cancel button.</i>		
	<i>Program those buttons as default buttons.</i>		
	<i>Create event handlers for the buttons.</i>		
Lab 3: Store and Update Data			
	<i>Use objects and methods from the XML namespace.</i>		
	<i>Store text from text boxes as attributes of an XmlElement object.</i>		
	<i>Add an XmlElement object to the end of an XmlDocument object.</i>		
	<i>Save the data in an XmlDocument object to an XML file.</i>		
	<i>Reload data in a data grid.</i>		
Lab 4: Add a Field			
	<i>Add a new field to a form.</i>		
	<i>Program the new field to be added to the XML file.</i>		
Quiz Study Guide			
	<i>Review the quiz study guide before taking the quiz.</i>		
Quiz 8			
	<i>Project 8 Quiz.</i>	5	
Assignment 8			
	<i>See assignment description document for detailed instructions.</i>	10	
	Total	100	90