

**NORCO COLLEGE  
SLO to PLO MATRIX**

<b>NORCO COLLEGE SLO to PLO MATRIX</b>		<b>PLOs</b>	Design structured programs using C++, Javascript, or Java.	Design and use object oriented programs in one of these languages C++, Java or PHP.	Design and use advanced programming techniques in C++ or Java.
<b>CERTIFICATE/PROGRAM:</b> Computer Programming NAS728/NCE728					
<b>COURSE:</b> CIS -1A: Introduction to Computer Information Systems					
SLO 1	Identify the fundamental computer concepts and terminology used for input, processing, output, and storage;		I		
SLO 2	Identify the key features of a variety of software such as operating systems, word processors, spreadsheets, databases, communications and graphics;				
SLO 3	Apply the principles of and solve problems with word processing, spreadsheet, database, communications and file management programs;				
SLO 4	Create electronic presentations with presentation graphics;				
SLO 5	Demonstrate the principles of Internet research;				
SLO 6	Understand the principles of computer security, ethics and privacy;				
<b>COURSE:</b> CIS/CSC-2: Fundamentals of Systems Analysis					
SLO 1	Demonstrate an understanding of systems analysis as applied to the effective use of computers in business operations.				
SLO 2	Analyze various user requirements applying structured analysis tools like Data Flow Diagrams, Data Dictionary and Process Description.		I, D, M		
SLO 3	Design output screens and reports, input screens, and user interface screens.		I,D, M		
SLO 4	Demonstrate an understanding of various developmental methodologies.				
SLO 5	Analyze data with relational databases in mind and design normalized files.				
<b>COURSE:</b> CIS/CSC-5: Fundamentals of Programming Logic using C++					
SLO 1	Create computer programs in C++ using the principles of structured programming.		I, D	I, D	
SLO 2	Apply the principles of logical programming concepts to develop specific solutions for gaming, business, scientific and mathematics problems.		I, D	I, D	

**NORCO COLLEGE  
SLO to PLO MATRIX**

<b>NORCO COLLEGE SLO to PLO MATRIX</b>		<b>PLOs</b>	Design structured programs using C++, Javascript, or Java.	Design and use object oriented programs in one of these languages C++, Java or PHP.	Design and use advanced programming techniques in C++ or Java.
SLO 3	Identify the information input requirements, synthesize the algorithmic steps needed to transform the data input into the required output information, and organize the output format to facilitate user communication.		I, D	I, D	
SLO 4	Demonstrate the use of the C++ IDE and libraries.				
<b>COURSE: CIS/CSC-21: Introduction to Operating Systems</b>					
SLO 1	Demonstrate the installation, usage, and administration of a variety of operating systems.				
SLO 2	Identify operating system features, particularly as they pertain to system performance.				
SLO 3	Demonstrate how various operating systems interface with the network, user i/o, storage devices, and other hardware components.				
<b>COURSE: CIS-72A: Introduction to Web Page Creation</b>					
SLO 1	Design and create Web pages with Extensible Hypertext Markup Language (XHTML) using a text editor.				
SLO 2	Create valid, properly structured XHTML pages containing headings, paragraphs, hyperlinks, lists, and images.				
SLO 3	Create valid XHTML pages containing tables and forms.				
SLO 4	Create and format a typical 5 to 10 page small business or personal Web site using XHTML and CSS styles.				
<b>COURSE: CIS/CSC-12: PHP Dynamic Web Site Programming</b>					
SLO 1	Write working PHP scripts to create valid content on web pages.			I, D, M	
SLO 2	Write and use PHP functions and objects effectively.			I, D, M	

**NORCO COLLEGE  
SLO to PLO MATRIX**

<b>NORCO COLLEGE SLO to PLO MATRIX</b>		<b>PLOs</b>	Design structured programs using C++, Javascript, or Java.	Design and use object oriented programs in one of these languages C++, Java or PHP.	Design and use advanced programming techniques in C++ or Java.
SLO 3	Create PHP scripts that display dynamic web page content retrieved from a database.			I, D	
SLO 4	Create form pages using PHP to validate data entry, process form data and update a database.			I, D	
<b>COURSE: CIS/CSC-14A: Web Programming: Javascript</b>					
SLO 1	Create JavaScript programs that will run successfully in a browser using various data types, variables, operators, expressions, statements, decisions, loops, and functions.		I, D, M	I, D	
SLO 2	Write effective scripts using JavaScript core objects, properties, and methods, including the Array, Math, String, and Date objects.		I, D, M	I, D	
SLO 3	Write scripts that effectively validate forms, manipulate frames and windows, and employ cookies.		I, D	I	
SLO 4	Write scripts that apply the usage of objects, properties, methods, and events of the Document Object Model (DOM) to provide real world web site features and enhancements.		I, D	I	
<b>COURSE: CIS-14B: Web Programming: Active Server Pages</b>					
SLO 1	Identify and employ the various components of the ASP object model.				
SLO 2	Create client-side and server-side programs that will run successfully in a web browser.				M
SLO 3	Create ASP scripts that control the dynamic positioning and movement of objects on a Web page.				M
SLO 4	Create ASP scripts that successfully access, retrieve, and update databases on the Web.				
SLO 5	Create Web sites that successfully employ form data validation, form processing, and data manipulation.				M

**NORCO COLLEGE  
SLO to PLO MATRIX**

		<b>PLOs</b>			
			Design structured programs using C++, Javascript, or Java.	Design and use object oriented programs in one of these languages C++, Java or PHP.	Design and use advanced programming techniques in C++ or Java.
<b>COURSE:</b>	<b>CIS/CSC-17A: C++ Programming: Objects</b>				
SLO 1	Analyze and understand the Object-Oriented C++ environment.		I, D	I, D	
SLO 2	Apply theoretical gaming, business, scientific, and mathematical concepts in writing and executing programs in the C++ language using Object-Oriented programming methodology.		I, D	I, D	
SLO 3	Demonstrate specified problem-solving and software design skills using the C++ language.		I, D	I, D	
SLO 4	Demonstrate the use of specialized terminology, directives, and features of the C++ language.		I, D	I, D	
<b>COURSE:</b>	<b>CIS/CSC-18A: Java Programming: Objects</b>				
SLO 1	Demonstrate an understanding of the Java IDE programming environment sufficient to write small to medium sized programs.			I	
SLO 2	Demonstrate an understanding of the fundamentals of object-oriented development sufficient to create and use classes as the foundation of Java application programs.			I, D	
<b>COURSE:</b>	<b>CIS/CSC-11: Computer Programming using Assembler</b>				
SLO 1	Analyze microprocessor architecture and the hardware PC's.				
SLO 2	Analyze and interpret assembly language code and hexadecimal format.				
SLO 3	Write and execute programs in assembly language (utilizing application programming interfaces) illustrating typical mathematic and business applications.				I,D, M
<b>COURSE:</b>	<b>CIS/CSC-17B: C++ Programming: Advanced Objects</b>				

**NORCO COLLEGE  
SLO to PLO MATRIX**

<b>NORCO COLLEGE SLO to PLO MATRIX</b>		<b>PLOs</b>	Design structured programs using C++, Javascript, or Java.	Design and use object oriented programs in one of these languages C++, Java or PHP.	Design and use advanced programming techniques in C++ or Java.
SLO 1	Write medium to large C++ programs individually and as part of a programming team effort.		I, D, M	I, D, M	I, D, M
SLO 2	Create programs that run in a multiprocessor environment such as but not limited to multimedia components.		I, D, M		I,D,M
SLO 3	Use C++ database connectivity "ODBC" with basic SQL to maintain and update records.				I,D,M
<b>COURSE: CIS/CSC-17C: C++ Programming: Data Structures</b>					
SLO 1	Analyze and understand the use of data structures in the development of algorithms.				
SLO 2	Design and create C++ programs using stacks, trees, queues, lists and trees.			I, D	I, D
SLO 3	Apply practical business processes, theoretical scientific, and mathematical concepts to write and execute computer programs in the C++ language using data structures.			I, D, M	I, D, M
<b>COURSE: CIS/CSC-18B: Java Programming: Advanced Objects</b>					
SLO 1	Write medium to large Java programs individually and as part of a programming team effort.		I, D, M	I, D, M	I, D
SLO 2	Create programs that run in a multiprocessor environment such as but not limited to multimedia components.		I, D	I, D	
SLO 3	Use Java database connectivity "JDBC" with basic SQL to maintain and update records.		I, D	I, D	M
<b>COURSE: CIS/CSC-18C: Java Programming: Data Structures</b>					
SLO 1	Analyze and understand the use of data structures in the development of algorithms.		M	M	M

**NORCO COLLEGE  
SLO to PLO MATRIX**

		PLOs	Design structured programs using C++, Javascript, or Java.	Design and use object oriented programs in one of these languages C++, Java or PHP.	Design and use advanced programming techniques in C++ or Java.
SLO 2	Design and create Java programs using stacks, trees, queues, lists and trees.		M	M	M
SLO 3	Apply practical business processes, theoretical scientific, and mathematical concepts to write and execute computer programs in the Java language using data structures.		M	M	M