

**BUSINESS**  
**Institutional (ILO), Program (PLO), and Course (SLO) Alignment**

Program: <b>Computer Information Systems</b>	Number of Courses: 21	Date Updated: 09.29.2015	Submitted by: Kurt Hull, ext. 3775 Ana Milosevic, ext. 3784
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<b>ILOs</b>	<b>1. Critical Thinking</b> <i>Students apply critical, creative and analytical skills to identify and solve problems, analyze information, synthesize and evaluate ideas, and transform existing ideas into new forms.</i>	<b>2. Communication</b> <i>Students effectively communicate with and respond to varied audiences in written, spoken or signed, and artistic forms.</i>	<b>3. Community and Personal Development</b> <i>Students are productive and engaged members of society, demonstrating personal responsibility, and community and social awareness through their engagement in campus programs and services.</i>	<b>4. Information Literacy</b> <i>Students determine an information need and use various media and formats to develop a research strategy and locate, evaluate, document, and use information to accomplish a specific purpose. Students demonstrate an understanding of the legal, social, and ethical aspects related to information use.</i>
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**SLO-PLO-ILO ALIGNMENT NOTES:**

Mark boxes with an 'X' if: SLO/PLO is a major focus or an important part of the course/program; direct instruction or some direct instruction is provided; students are evaluated multiple times (and possibly in various ways) throughout the course or are evaluated on the concepts once or twice within the course.

DO NOT mark with an 'X' if: SLO/PLO is a minor focus of the course/program and some instruction is given in the area but students are not formally evaluated on the concepts; or if the SLO/PLO is minimally or not at all part of the course/program.

<b>PLOs</b>	<b>PLO to ILO Alignment</b> <i>(Mark with an X)</i>			
	1	2	3	4
<b>PLO #1 Professional Awareness</b> Students will be able to explain ethical, legal, and societal implications inherent in information technology and understand the professional responsibilities of a computer professional.	X	X		X
<b>PLO #2 Business Communication</b> Upon the completion of a course of study in Computer Information Systems students will be able to demonstrate proficiency in common industry software applications, cyber applications and Network security to effectively analyze business problems and communicate decisions.	X	X		X
<b>PLO #3 Skill Development</b> Upon the completion of a course of study in Computer Information Systems students will be able to demonstrate the ability to use computer information concepts and critical thinking skills to analyze business problems, and design, develop and implement appropriate software solutions, using a variety of software tools and computer languages.	X	X		X

SLOs	SLO to PLO Alignment <i>(Mark with an X)</i>			COURSE to ILO Alignment <i>(Mark with an X)</i>			
	P1	P2	P3	1	2	3	4
<b>CIS 11 Help Desk Operations: SLO #1 Dealing with Customers</b> Identify the communication strategies to build rapport and trust with customers and the proven techniques to handle irate, difficult and demanding customers.	X	X		X	X		X
<b>CIS 11 Help Desk Operations: SLO #2 Help Desk Operations</b> Identify the major steps in the incident Management process.			X				
<b>CIS 11 Help Desk Operations: SLO #3 Technical Writing</b> Develop and create examples of end-user support documentation using enhancements including diagrams, images, and screen captures in order to produce user guides and FAQs.		X	X				
<b>CIS 11 Help Desk Operations: SLO #4 Managing Knowledge Resources</b> Demonstrate the use of software tools used to manage knowledge resources relating to end-user technical support.		X	X				
<b>CIS 11 Help Desk Operations: SLO #5 Management</b> Understand and evaluate the needs of the users in an organization, the cost and benefit of fulfilling the needs, and the staffing and training of the help desk to properly support the organization.	X						
<b>CIS 11 Help Desk Operations: SLO #6 Professional Protocol</b> Understand the mission of the help desk in an organization, and the professional responsibilities and skills required of a help desk technician.	X						
<b>CIS 13 Computer Information Systems: SLO #1 Applicability</b> Solve common business problems using appropriate information technology applications and systems design and developmental tools.		X	X	X	X		X
<b>CIS 13 Computer Information Systems: SLO #2 Applicability</b> Demonstrate an understanding of the system development process and use of information systems within an organization.			X				
<b>CIS 13 Computer Information Systems: SLO #3 Communications</b> Identify and analyze existing and emerging technologies and their impact on organizations and society including communication and global relationships.	X		X				
<b>CIS 13 Computer Information Systems: SLO #4 Networking</b> Demonstrate knowledge of network configurations, risk management and security protocols.			X				

SLOs	SLO to PLO Alignment <i>(Mark with an X)</i>			COURSE to ILO Alignment <i>(Mark with an X)</i>			
	P1	P2	P3	1	2	3	4
<b>CIS 133 Mashup JavaScript, jQuery and AJAX: SLO #1 Fundamental Concepts of Client-Side Programming</b> Students will demonstrate their ability to bring excitement to web pages using the fundamental components in the JavaScript programming language, including form data validation techniques, event handling using functions, timers, and control structures, repetitive programming methods, objects and object models, and the jQuery library.			X				
<b>CIS 133 Mashup JavaScript, jQuery and AJAX: SLO #2 Incorporating Data in Client-Side Programs</b> Students will demonstrate their ability to incorporate client side data storage and transmission techniques using cookies, hidden form fields, querystrings, eXtensible Markup language (XML), JavaScript Object Notation (JSON), and Asynchronous JavaScript and XML (AJAX).			X	X	X		X
<b>CIS 133 Mashup JavaScript, jQuery and AJAX: SLO #3 Developing a Software Application for the Web</b> Students will demonstrate the ability to create an e-commerce website that includes a fully functioning shopping cart and checkout/payment process, using a web development approach that incorporates planning, designing, coding, testing, and publishing to a web server.		X	X				
<b>CIS 134 ASP.NET with C# Business Web Programming: SLO #1 Developing an E-Commerce Software Application for the Web</b> The student will demonstrate the ability to create an e-commerce website using ASP.NET and C#. Given detailed specifications and example code, create a functioning e-commerce website that includes: a) a market-competitive user interface, b) a shopping cart, c) product recommendations, d) an order pipeline to follow the order process, e) a database which includes customers, products with product attributes, orders, audit, order, inventory, and product recommendation information, and search capability.		X	X				
<b>CIS 134 ASP.NET with C# Business Web Programming: SLO #2 SQL, C# and ASP.NET</b> Demonstrate knowledge of e-commerce development programming language usage.			X	X	X		X
<b>CIS 134 ASP.NET with C# Business Web Programming: SLO #3 Website Planning</b> Demonstrate project design and management of a complete e-commerce website including the use of requirements document, database and class diagrams, use case definitions, flowcharts, cross-functional flowcharts, site maps, user controls, classes and timelines.		X	X				
<b>CIS 136 Building Mobile Apps: SLO #1 Understanding Mobile Frameworks</b> Students will be understand the different types of application frameworks used to develop mobile applications..			X				
<b>CIS 136 Building Mobile Apps: SLO #2 Designing Mobile User Interfaces</b> Students will be able to design and create effective mobile application user interfaces.		X	X				
<b>CIS 136 Building Mobile Apps: SLO #3 Developing Mobile Applications</b> Students will be able to architect, develop, test, and debug mobile applications that display various types of digital media, manage data, and use the native features of a mobile device.			X	X	X		X
<b>CIS 136 Building Mobile Apps: SLO #4 Marketing Mobile Applications</b> Students will understand how to deploy a mobile app to the app marketplace.			X				

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	P1	P2	P3	1	2	3	4
<b>CIS 140 Data Communications CISCO 1: SLO #1 Data Communication Terms</b> Describe and explain data communication terms such as broadband and baseband communications.		X		X	X		X
<b>CIS 140 Data Communications CISCO 1: SLO #2 Modulation Techniques</b> Describe and use different modulation techniques such as time-division and frequency division.		X					
<b>CIS 140 Data Communications CISCO 1: SLO #3 Network Systems</b> Analyze and design network systems using differing transmission methods such as copper wire, fiber optics, microwave and satellite.		X	X				
<b>CIS 140 Data Communications CISCO 1: SLO #4 Communications with the Internet</b> Use microcomputer hardware and software to facilitate communications with the Internet. Describe how microcomputer hardware relates to data communications. Analyze security issues such as protections, detection and correction.	X						
<b>CIS 140 Data Communications CISCO 1: SLO #5 Local and Wide Area Networks</b> Describe and define the similarities and differences between local area and wide area networks.		X					
<b>CIS 140 Data Communications CISCO 1: SLO #6 Ethical Considerations</b> Identify ethical considerations such as privacy, hacking, and piracy.	X						
<b>CIS 141 Networking Microcomputers CISCO 2: SLO #1 Connection and Connection-less Oriented Networks</b> Describe connection-oriented network services and connectionless- oriented network services and identify their key differences.		X		X	X		X
<b>CIS 141 Networking Microcomputers CISCO 2: SLO #2 Basic Methods</b> Define flow control and describe the three basic methods used in connection oriented networking.		X					
<b>CIS 141 Networking Microcomputers CISCO 2: SLO #3 Functions of the TCP/IP</b> Identify the functions of the TCP/IP transport-layer protocols.		X					
<b>CIS 141 Networking Microcomputers CISCO 2: SLO #4 Comparing Protocols</b> Compare TCP/IP protocols to the ISO reference model layer four.		X	X				
<b>CIS 141 Networking Microcomputers CISCO 2: SLO #5 ICMP Functions</b> Identify the functions performed by ICMP.		X					
<b>CIS 141 Networking Microcomputers CISCO 2: SLO #6 Routing Type Problems</b> List problems that each routing type encounters when dealing with topology changes, and describe techniques used to reduce the number of these problems.		X	X				

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	P1	P2	P3	1	2	3	4
<b>CIS 142 Local Area Network (LAN) Switching and Wireless CISCO 3: SLO #1 Router Components</b> Identify router components such as Ethernet and Serial Interfaces, Console and Auxiliary ports, RAM, NVRAM, and ROM memory.		X		X	X		X
<b>CIS 142 Local Area Network (LAN) Switching and Wireless CISCO 3: SLO #2 Router Hardware Configuration</b> Create valid router hardware configurations using proper router protocols, IP addressing, interface addressing, and network address identification.		X	X				
<b>CIS 142 Local Area Network (LAN) Switching and Wireless CISCO 3: SLO #3 Router Design of LANs and WANs</b> Install and configure routers for design of LANs and WANs.		X					
<b>CIS 142 Local Area Network (LAN) Switching and Wireless CISCO 3: SLO #4 Periodic Maintenance</b> Perform periodic maintenance on routers by logging into the console port and testing IOS, the configuration file, and the status of each interface.		X					
<b>CIS 142 Local Area Network (LAN) Switching and Wireless CISCO 3: SLO #5 Troubleshooting</b> Troubleshoot malfunctioning routers by examining the status of the POST test, the interface status, the IP status, and the status of the time-to-live facility.		X	X				
<b>CIS 142 Local Area Network (LAN) Switching and Wireless CISCO 3: SLO #6 New Version of CISCO</b> Download and install a new version of the CISCO Internetworking Operating system software.		X					
<b>CIS 143 Access the WAN CISCO 4: SLO #1 Internet Working Modules</b> Define and discuss internetworking models. Determine appropriate paths for internetworking.		X		X	X		X
<b>CIS 143 Access the WAN CISCO 4: SLO #2 User Interfaces</b> Install user interfaces.		X					
<b>CIS 143 Access the WAN CISCO 4: SLO #3 Router Issues</b> List basic router issues. Describe serial connections for wide area networking. Auto install router configurations.		X					
<b>CIS 143 Access the WAN CISCO 4: SLO #4 Configuring Routers</b> Configure hardware and software for routers to use both LAN and WAN protocols.		X					
<b>CIS 143 Access the WAN CISCO 4: SLO #5 Configuring Protocols</b> Configure TCP/IP and AppleTalk protocols. Manage traffic with access lists.		X					

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	P1	P2	P3	1	2	3	4
<b>CIS 16 Application Development and Programming using Visual Basic.Net: SLO #1 Creating an Interface</b> Creating an application using the fundamental concepts and models of application development including program design techniques, data structures, programming, problem solving and programming and business function logic.			X	X	X		X
<b>CIS 16 Application Development and Programming using Visual Basic.Net: SLO #2 Application Development</b> Demonstrate well-written, logical, and readable programs using a disciplined coding system and professional project planning and management methodology, including requirements document, event planning, flow charts, site maps, timelines, Gantt charts, data diagrams, user case documents, testing and debugging.			X				
<b>CIS 16 Application Development and Programming using Visual Basic.Net: SLO #3 Software Development Environment</b> Identify and describe issues involved with software development including ethical conduct, business strategies, social media use, copyright laws and business practices.	X						
<b>CIS 16 Application Development and Programming using Visual Basic.Net: SLO #4 Data Driven Application</b> Create an application utilizing a database to store, modify, delete and retrieve database information for viewing and decision making.			X				
<b>CIS 18 Systems Analysis and Design: SLO #1 Interview Techniques</b> Use effective interview techniques to gain an understanding of the company computer system's current data inputs, outputs, and processes.			X	X	X		X
<b>CIS 18 Systems Analysis and Design: SLO #2 Graphical Models</b> Understand how 1) data flow diagrams visually illustrate the way data moves through a company's information system, and 2) entity-relationship diagrams serve as a graphical model that depict the relationships among the entities of a company's information system.			X				
<b>CIS 18 Systems Analysis and Design: SLO #3 Logical Design Documents</b> Prepare logical design documentation for a company's new or modified computer system that includes a systems requirements document and a systems design specification.			X				
<b>CIS 19 Internet, Security, and Web: SLO #1 Web Sites</b> Compare and contrast the Internet from its original text-based web sites to current and collaborative interactive web sites.			X	X	X		X
<b>CIS 19 Internet, Security, and Web: SLO #2 Security</b> Analyze the features of a secure website and create secure browser settings.			X				
<b>CIS 19 Internet, Security, and Web: SLO #3 Attacks</b> Assess the likelihood of an attack on a local area network and set up a recovery plan.		X	X				
<b>CIS 19 Internet, Security, and Web: SLO #4 Fraud</b> Demonstrate an understanding of fraud and identity theft and its counter measures.		X	X				

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	P1	P2	P3	1	2	3	4
<b>CIS 20 Microsoft Windows: SLO #1 Functions</b> Understand functions of Start menu, Restore Points, and system-level rights of Administrators and Users Accounts with rights and privileges.		X		X	X		X
<b>CIS 20 Microsoft Windows: SLO #2 Maintenance</b> Given an in-class assignment, set and name restore points, defragment a hard drive, delete cookies, and create users accounts.		X					
<b>CIS 20 Microsoft Windows: SLO #3 Effects of Malware</b> Understand effects of malware and appropriate countermeasures; demonstrate ability to perform backup and restore procedures.		X	X				
<b>CIS 20 Microsoft Windows: SLO #4 Security Software</b> Given an in-class assignment, download, install, and execute security software.		X					
<b>CIS 26 Using Microsoft Excel: SLO #1 Spreadsheets</b> Given an in-class assignment, construct an accurate and complete spreadsheet that demonstrates appropriate formatting and fundamental math calculations.			X	X	X		X
<b>CIS 26 Using Microsoft Excel: SLO #2 External References</b> Given an in-class assignment, construct an accurate and complete spreadsheet that demonstrates math calculations AND LOOKUPS THAT INCLUDE EXTERNAL REFERENCES.			X				
<b>CIS 26 Using Microsoft Excel: SLO #3 Conditional Formatting</b> Given an in-class assignment, modify an existing spreadsheet to include conditional numeric formatting involving mathematical states (positive, negative and zero), and conditional logic involving day and time calculations.			X				
<b>CIS 26 Using Microsoft Excel: SLO #4 Testing for Logic and Errors</b> Given an in-class assignment, demonstrate proficiency in array processing of spreadsheet formulas, table structures, and database ("D") functions.			X				
<b>CIS 26 Using Microsoft Excel: SLO #5 Spreadsheet Formulas</b> Demonstrate comprehension of spreadsheet formulas, functions, internal and external referencing, range naming, charting, absolute and relative referencing, and conditional formatting.			X				
<b>CIS 26 Using Microsoft Excel: SLO #6 Spreadsheet Operations</b> Demonstrate comprehension of multi-dimensional table structures, basic macro construction, and consolidations by name and by position.			X				

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	P1	P2	P3	1	2	3	4
<b>CIS 27 Using Spreadsheet Macros: SLO #1 Decision Support Tools</b> Given an in-class assignment, construct accurate and complete spreadsheets that that utilize Decision Support Tools, what-ifs, the Scenario Manager, and Regression Analysis.	X	X	X	X	X		X
<b>CIS 27 Using Spreadsheet Macros: SLO #2 Pivot Tables and Charts</b> Given an in-class assignment, construct accurate and complete spreadsheets that utilize Pivot Tables and Pivot Charts.			X				
<b>CIS 27 Using Spreadsheet Macros: SLO #3 Atypical Charts</b> Given an in-class assignment, construct accurate and complete spreadsheets that display atypical charts to include radar, surface, and doughnut; understand values in formulas taken to nth power.			X				
<b>CIS 27 Using Spreadsheet Macros: SLO #4 Error Correction in Finance and Databases</b> Given an in-class assignment, construct an accurate and complete spreadsheet that utilizes Error Correction, and advanced functions in the categories of Finance and Databases.	X	X	X				
<b>CIS 28 Database Management using Microsoft Access: SLO #1 Concepts and Terms</b> Understand database concepts and terminology.		X		X	X		X
<b>CIS 28 Database Management using Microsoft Access: SLO #2 Table Structures</b> Design, create, and modify table structures and relationships. Modify tables to include default values, validation rules, input masks, and indices.		X	X				
<b>CIS 28 Database Management using Microsoft Access: SLO #3 Queries</b> Create single-table and multi-table queries. Use queries to perform calculations on data contained in tables.		X	X				
<b>CIS 28 Database Management using Microsoft Access: SLO #4 Creating Forms</b> Create forms for viewing, entering, and editing data.		X					
<b>CIS 29 Advanced Database Applications: SLO #1 Tables</b> Import and export tables for use in a database design.		X		X	X		X
<b>CIS 29 Advanced Database Applications: SLO #2 Queries</b> Create and modify complex, multi-table and crosstab queries.		X	X				
<b>CIS 29 Advanced Database Applications: SLO #3 Forms</b> Create and customize complex forms for capturing and reporting. Use Forms as a menu system.		X	X				
<b>CIS 29 Advanced Database Applications: SLO #4 Macros</b> Create and run Macros.		X	X				
<b>CIS 29 Advanced Database Applications: SLO #5 Design</b> Design and develop a working database using Access.		X	X				



SLOs	SLO to PLO Alignment <i>(Mark with an X)</i>			COURSE to ILO Alignment <i>(Mark with an X)</i>			
	P1	P2	P3	1	2	3	4
<b>CIS 3 Introduction to Microcomputer and Software Applications: SLO #1 Basic Windows Operations</b> Students will be able to utilize Windows using files, folders and drives.		X		X	X		X
<b>CIS 3 Introduction to Microcomputer and Software Applications: SLO #2 Basic Word Processing</b> Students will be able to create, save, copy and format a word processing document.		X					
<b>CIS 3 Introduction to Microcomputer and Software Applications: SLO #3 Basic Spreadsheet Usage</b> Students will be able to create a spreadsheet, create formulas, use functions and format tools and create and format charts.		X					
<b>CIS 30 Introduction to eCommerce: SLO #1 e-Business Plan</b> By the end of the course, students will develop and present a business plan for an eCommerce company with the functionality of selling goods or services.			X	X	X		X
<b>CIS 30 Introduction to eCommerce: SLO #2 Mobile</b> Compare and contrast various mobile technologies that are currently being used to conduct online business.			X				
<b>CIS 30 Introduction to eCommerce: SLO #3 Software</b> Understand the basic and advanced functions of eCommerce software.		X					
<b>CIS 40 Personal Computer Operations: SLO #1 Terminology</b> Examine operating systems terminology and technologies as they apply to microcomputers.		X		X	X		X
<b>CIS 40 Personal Computer Operations: SLO #2 PC Boot Problems</b> Students will be able to solve a PC boot problem, given a set of circumstances that occur once the power button is pressed. Using a BIOS software troubleshooting flowchart, they will be able to determine which BIOS process is causing the failure.		X	X				
<b>CIS 40 Personal Computer Operations: SLO #3 Installation</b> Students will be able to install a windows operating system. They will install the operating system, service packs, video and audio drivers, and configure the hardware resources.		X	X				
<b>CIS 80 Oracle Application Programming: SLO #1 Tables and Relationships</b> Design and develop tables and relationships for common business problems.		X		X	X		X
<b>CIS 80 Oracle Application Programming: SLO #2 Solving Common Business Problems</b> <i>Solve common business oriented problems by using the SQL programming language to access database for answers to common business queries.</i>		X	X				
<b>CIS 80 Oracle Application Programming: SLO #3 Conditional Statements</b> Develop conditional statements and multiple level "if" statements to query database tables.		X	X				
<b>CIS 80 Oracle Application Programming: SLO #4 Program Code</b> Write programming code to manipulate database tables.			X				
<b>CIS 80 Oracle Application Programming: SLO #5 Efficient Programming Techniques</b> Demonstrate use of efficient programming techniques.			X				