

COMPUTER INFORMATION TECHNOLOGY

BEFORE ENROLLING IN DEGREE APPLICABLE COURSES, IT IS RECOMMENDED THAT YOU COMPLETE ENGL 001A AND READ 053.

Microsoft Certified Systems Engineer (MCSE) - Certificate

The Microsoft Certified System Engineer (MCSE) track is designed to fully prepare students to install, configure and administer Microsoft products. The track focuses on Microsoft, but also includes support courses that are not vendor specific and better prepares the student to actually work in the field. Completion of the track prepares students to take and pass the Microsoft series of Certification exams.

Core Curriculum Courses (Required)	Units
CIT 012..... Network Hardware & Software.....	4.0
CIT 014..... Introduction to Computer Hardware.....	4.0
CIT 041..... Microsoft OS Essentials.....	3.0
CIT 043..... Microsoft Server.....	3.0
CIT 044..... Supporting MS Windows Network Infrastructure.....	3.0
CIT 045..... Implementing and Administering Windows Directory Services.....	3.0
CIT 046..... Designing a Secure Windows 2000 Network.....	3.0
CIT 141..... Microsoft OS Essentials Lab.....	1.0
CIT 143..... Microsoft Server Lab.....	1.0
COMM 015..... Career Communications.....	3.0

Plus choose two courses from the following:

CIT 049..... System Admin for Microsoft SQL Server.....	3.0
CIT 052A..... Designing and Implementing a Data Warehouse Using MS SQL Server.....	3.0
CIT 057A..... Implementing and Supporting MS Exchange Services.....	4.0

Total Program Certificate Requirements:..... 34.0-35.0

Microsoft Certified Database Administration (MCDBA) - Certificate

The Microsoft Certified Database Administrator (MCDBA) track is designed to fully prepare students to install, configure and administer Microsoft database related products. The track focuses on Microsoft, but also includes support courses that are not vendor specific and better prepares the student to actually work in the field. Completion of the track prepares students to take and pass the Microsoft series of Certification exams.

Core Curriculum Courses (Required)	Units
CIT 041..... Microsoft OS Essentials.....	3.0
CIT 043..... Microsoft Server.....	3.0
CIT 044..... Supporting MS Windows Network Infrastructure.....	3.0
CIT 049..... System Administration for Microsoft SQL Server.....	3.0
CIT 051A..... Designing and Implementing Databases with Microsoft® SQL Server.....	3.0
CIT 052A..... Designing and Implementing a Data Warehouse Using MS SQL Server.....	3.0
CIT 141..... Microsoft OS Essentials Lab.....	1.0
CIT 143..... Microsoft Server Lab.....	1.0
COMM 015..... Career Communications.....	3.0

Plus choose one course from the following:

CIT 107..... Distributed Applications with Microsoft Visual C++.....	3.0
CIT 108..... Distributed Applications w/ Microsoft Visual Basic.....	3.0

Total Program Certificate Requirements:..... 26.0

Oracle Database Administration (DBA) - Certificate

The Oracle Database Administrator (DBA) track is designed to fully prepare students to install, configure and administer Oracle database related products. The track focuses on Oracle, but also includes support courses that are not vendor specific and better prepares the student to actually work in the field. Completion of the track prepares students to take and pass the Oracle series of Certification exams.

Core Curriculum Courses (Required)	Units
CA 084A..... Introduction to Oracle: SQL and PL/SQL.....	3.0
OR	
CIT 049..... System Administration for Microsoft SQL Server.....	3.0
CIT 082..... DBA: Architecture and Admin.....	3.0
CIT 084..... DBA: Backup and Recovery.....	3.0
CIT 086..... DBA: Performance Tuning.....	3.0

CIT 088..... DBA: Network Administration.....	3.0
CIT 182..... DBA: Architecture and Admin Lab.....	1.0
CIT 184..... DBA: Backup and Recovery Lab.....	1.0
CIT 186..... DBA: Performance Tuning Lab.....	1.0
CIT 188..... DBA: Network Administration Lab.....	1.0
COMM 015..... Career Communications.....	3.0

Plus choose one course from the following:

CIT 107..... Distributed Applications with MS Visual C++.....	3.0
CIT 108..... Distributed Applications with MS Visual Basic.....	3.0

Total Program Certificate Requirements:..... 25.0

COMPUTER INFORMATION TECHNOLOGY (CIT)

011 • DESKTOP OPERATING SYSTEMS (A+ PART I) 4.0 units

Total Lecture 54.4 hours, Total Lab 54.4 hours

Acceptable for credit: California State University

This is the first of a two-course program designed to prepare students for the A+ certification exam. This course covers DOS (Command prompt functions) in Windows 9x, Windows 2000 OS. It also includes navigating through the OS from commandline prompts and procedures for accessing and retrieving information, network capabilities and how to connect to networks on the client side. In addition, students will also diagnose and troubleshoot common problems relating to Windows 9x and Windows 2000. This includes understanding normal operation and symptoms relating to common problems. *Pass/No Pass Option.*

012 • NETWORK HARDWARE AND SOFTWARE 4.0 units

Total Lecture 54.4 hours, Total Lab 54.4 hours

Acceptable for credit: California State University

This class is designed to give an overview of two distinct groups: Knowledge of Networking Technology, TCP/IP utilities and Knowledge of Networking Practices. The course will cover the basic network features of Microsoft Windows NT/2000, Novell Netware and UNIX. Students will also learn the security features, the file system and the network management of the Network Operating System. *Materials Fee: \$10.00. Pass/No Pass Option.*

014 • INTRODUCTION TO COMPUTER HARDWARE (A+ PART II) 4.0 units

Total Lecture 54.4 hours, Total Lab 54.4 hours

Acceptable for credit: California State University

This is the second of a two-course program designed to prepare students for the A+ certification exam. This course will teach students to install, configure, and upgrade microcomputer modules and peripherals. Students will also learn to diagnose and troubleshoot common module problems and system malfunctions. Students will also learn specific terminology, facts, ways and means of dealing with classifications, categories and principles of motherboards, processors, and memory in microcomputer systems. *Pass/No Pass Option.*

016 • SECURITY+ 4.0 units

Total Lecture 54.4 hours, Total Lab 54.4 hours

Acceptable for credit: California State University

Students learn to develop knowledge of communication security, infrastructure security, cryptography, access control, authentication, external attack, and operational and organization security. *This course may be offered via distance learning. Pass/No Pass Option.*

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021 • CISCO NETWORK FUNDAMENTALS (CISCO-1) 4.0 units

Total Lecture 54.4 hours, Total Lab 54.4 hours
Advisory: Eligibility for ENGL 001A and READ 053
Acceptable for credit: California State University

This course is the first of four courses leading to the Cisco Certified Network Associate (CCNA) designation. This course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. It uses the OSI and TCP layered models to examine the nature and roles of protocols and services at the application, network, data link, and physical layers. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. Labs use a "model Internet" to allow students to analyze real data without affecting production networks. Packet Tracer (PT) activities help students analyze protocol and network operation and build small networks in a simulated environment. At the end of the course, students build simple LAN topologies by applying basic principles of cabling; performing basic configurations of network devices, including routers and switches; and implementing IP addressing schemes. *This course may also be offered via distance learning. Materials Fee: \$10.00. Pass/No Pass Option.*

022 • ROUTING PROTOCOLS AND CONCEPTS (CISCO - 2) 4.0 units

Total Lecture 54.4 hours, Total Lab 54.4 hours
Advisory: Eligibility for ENGL 001A and READ 053
Acceptable for credit: California State University

This course is the second of four courses leading to the CCNA designation. It describes the architecture, components, and operation of CISCO routers, and explains the principles of routing and routing protocols. Students analyze, configure, verify, and troubleshoot the primary routing protocols (CISCO) RIPv1, RIPv2, EIGRP, and OSPF. By the end of this course, students recognize and correct common routing issues and problems. Students participate in procedural labs, and then presents basic configuration, implementation, and troubleshooting. Packet Tracer (PT) activities reinforce new concepts, and allow students to model and analyze routing processes that may be difficult to visualize or understand. *This course may be offered via distance learning. Pass/No Pass Option.*

023 • LOCAL AREA NETWORK DESIGN & CASE STUDY (CISCO) 4.0 units

Total Lecture 54.4 hours, Total Lab 54.4 hours
Acceptable for credit: California State University

This course is the third of four courses leading to the CCNA designation. This course provides a comprehensive, theoretical, and practical approach to learning the technologies and protocols needed to design and implement a converged switched network. Students learn about the hierarchical network design model and how to select devices for each layer. Students learn how to configure a switch for basic functionality and how to implement Virtual LANs, VTP, and Inter-VLAN routing in a converged network. The different implementations of Spanning Tree Protocol in a converged network are presented, and students develop the knowledge and skills necessary to implement a WLAN in a small-to-medium network. *Pass/No Pass Option.*

024 • ACCESSING THE WAN (CISCO) 4.0 units

Total Lecture 54.4 hours, Total Lab 54.4 hours
Advisory: Eligibility for ENGL 001A and READ 053
Acceptable for credit: California State University

This course is the fourth of four courses leading to the CCNA designation. This course discusses the WAN technologies and network services required by converged applications in Enterprise networks. The course uses the Cisco Network Architecture to introduce integrated network services and explains how to select the appropriate devices and technologies to meet network requirements. Students learn how to implement and configure common data link protocols and how to apply WAN security concepts, principles of traffic, access control, and addressing services. Finally, students learn how to detect, troubleshoot, and correct common enterprise network implementation issues. *This course may also be offered via distance learning. Pass/No Pass Option.*

025 • ADVANCED ROUTING - CISCO 5 3.0 units

Total Lecture 44.8 hours, Total Lab 27.2 hours
Prerequisite: CIT 024 or CCNA certification
Acceptable for credit: California State University

This course is designed to provide students with classroom and laboratory experience in current and emerging networking technology that will prepare them for the Cisco Certified Networking Professional (CCNP) exam: Building Scalable Cisco Networks (BSCN). Instruction includes advanced IP addressing, OSPF, EIGRP, advanced routing, BGP, and advanced access lists. *Pass/No Pass Option.*

026 • REMOTE ACCESS NETWORKS - CISCO 6 3.0 units

Total Lecture 44.8 hours, Total Lab 27.2 hours
Prerequisite: CIT 024 or CCNA certification
Acceptable for credit: California State University

This course is designed to provide students with classroom and laboratory experience in current and emerging networking technology that will prepare them for the Cisco Certified Networking Professional (CCNP) exam: Building Cisco Remote Access Networks (BCRAN). Instruction includes ISDN, DDR, ODR, dialup networking, Frame Relay, and AAA. Students will learn how to build a remote access network to interconnect central sites to branch offices and home office/telecommuters. Students will also learn how to control access to the central site, as well as maximize bandwidth utilization over the remote links. *Pass/No Pass Option.*

027 • MULTILAYER SWITCHING - CISCO 7 3.0 units

Total Lecture 44.8 hours, Total Lab 27.2 hours
Prerequisite: CIT 025
Acceptable for credit: California State University

This course is designed to provide students with classroom and laboratory experience in current and emerging networking technology that will prepare them for the Cisco Certified Networking Professional (CCNP) exam: Building Cisco Multilayer Switching Networks. Instruction includes advanced Virtual Local Area Network (VLAN) configuration, InterVLAN routing, Catalyst switch architecture, and CiscoWorks. *Pass/No Pass Option.*

028 • INTERNETWORKING TROUBLESHOOTING CISCO 8 3.0 units

Total Lecture 44.8 hours, Total Lab 27.2 hours
Prerequisite: CIT 025
Acceptable for credit: California State University

This course is designed to provide students with classroom and laboratory experience in current and emerging networking technology that will prepare them for the Cisco Certified Networking Professional (CCNP) exam: Cisco Internetwork Troubleshooting. Instruction includes troubleshooting methodology, network documentation, and debug. *Pass/No Pass Option.*

041 • MICROSOFT OS ESSENTIALS 3.0 units

Total Lecture 54.4 hours
Advisory: CIS 054B
Corequisite: CIT 141
Acceptable for credit: California State University

The goal of this course is to provide individuals who are new to Microsoft Windows 2000 with the knowledge necessary to understand and identify the tasks involved in supporting Windows 2000 Networks. This is an introductory course designed to provide knowledge of user accounts, Windows 2000 groups and group scopes, permissions, security, Active Directory terminology, optimizing IP address allocation, Windows 2000 utilities, and Web services. *Pass/No Pass Option.*

043 • MICROSOFT SERVER 3.0 units

Total Lecture 54.4 hours
Prerequisite: CIT 041
Corequisite: CIT 143
Acceptable for credit: California State University

Students will learn to install and configure Microsoft Windows 2000 Professional on stand-alone computers and on client computers that are part of a workgroup or a domain. In addition, this course provides the skills and knowledge necessary to install and configure Windows 2000 Server to create file, print, and Terminal servers. *Pass/No Pass Option.*

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044 • SUPPORTING MS 2000 NETWORK INFRASTRUCTURE

3.0 units

Total Lecture 36.8 hours, Total Lab 54.4 hours

Prerequisite: CIT 041

Acceptable for credit: California State University

Students will learn to install, configure, and administer Microsoft Windows 2000 Active Directory services. The course also focuses on implementing Group Policy and understanding the Group Policy tasks required to centrally manage users and computers. Students will use Group Policies to configure and manage the user desktop environment, to configure and manage software, and to implement and manage security settings. Students will install and manage Windows 2000 Domains and Domain Controllers through Active Directory. *Pass/No Pass Option.*

045 • IMPLEMENTING AND ADMINISTERING MS DIRECTORY SERVICES

3.0 units

Total Lecture 36.8 hours, Total Lab 54.4 hours

Advisory: CIS 054B

Prerequisite: CIT 043

Acceptable for credit: California State University

Students will learn the knowledge and skills necessary to design a Microsoft Windows directory services infrastructure in an enterprise network. At the end of the course, students will be able to describe guidelines for gathering business and administrative information from an organization, and explain how an architect uses that information to design an Active Directory structure for an enterprise; design an Active Directory naming strategy; develop a plan to secure and delegate administrative authority over Active Directory objects based on the administrative model of an organization. *Pass/No Pass Option.*

046 • DESIGNING A SECURE WINDOWS 2000 NETWORK

3.0 units

Total Lecture 44.8 hours, Total Lab 27.2 hours

Advisory: CIS 054B

Prerequisite: CIT 044

Acceptable for credit: California State University

Students will learn to design a security framework for small, medium, and enterprise networks using Microsoft Windows 2000 technologies. Students will learn how to provide secure access to local network users, to remote users and remote offices, between private and public networks and provide secure access to partners. Group Policy, site topology, Virtual Private Networks (VPNs), e-commerce, printer security, and security for non-Microsoft clients are also taught in the course. *Pass/No Pass Option.*

049 • SYSTEMS ADMINISTRATION FOR MS SQL/SERVER

3.0 units

Total Lecture 36.8 hours, Total Lab 54.4 hours

Prerequisite: CIT 041

Acceptable for credit: California State University

This course provides students with the knowledge and technical skills required to install, configure, administer, and troubleshoot the client/server database management system of Microsoft SQL Server. The student will also learn to manage files and databases; choose and configure a login security method; plan and implement database permissions; secure SQL Server in an enterprise network; perform and automate administrative tasks; create custom administrative tools; monitor and optimize SQL Server performance; and replicate data from one SQL Server to another. *Pass/No Pass Option.*

051A • DESIGNING AND IMPLEMENTING DATABASES WITH MS SQL SERVER

3.0 units

Total Lecture 44.8 hours, Total Lab 27.2 hours

Prerequisite: CIT 043

Acceptable for credit: California State University

This course provides students with the knowledge and technical skills required to implement a database solution with Microsoft SQL Server client/server database management system. The student will also learn various elements of the Transact-SQL language; how to configure the data storage architecture of SQL Server; and how to create and manage files, file groups, databases, tables, and transaction logs. At the conclusion of the course, the student will be able to enforce data integrity; create and maintain indexes; write queries that retrieve and modify data using joins and sub queries; and write queries that summarize data. Student will also manage locking options and transactions to ensure data concurrency and recoverability and design views, triggers, and stored procedures. *Pass/No Pass Option.*

052A • DESIGNING AND IMPLEMENTING DATA WAREHOUSE USING MS SQL SERVER

3.0 units

Total Lecture 44.8 hours, Total Lab 27.2 hours

Advisory: CIS 054B

Prerequisite: CIT 043

Acceptable for credit: California State University

This course provides students with the knowledge and skills required to plan, implement, and maintain a data warehouse using Microsoft SQL Server client/server database management system. At the conclusion of the course, students will be able to design a data warehousing system, and implement a database designed with a star schema in SQL Server. The student will also gather data from primary data sources, transform it, and place it in a SQL Server staging database; create a cube using online analytical processing (OLAP) services; analyze cube data using existing client applications; query cubes using multidimensional expressions (MDX); build custom OLAP clients using Microsoft ActiveX Data Objects (Multidimensional) (ADO MD), Object Linking and Embedding (OLE) DB for OLAP, and Decision Support Objects (DSO); and query warehouse data using Microsoft English Query. *Pass/No Pass Option.*

055 • IMPLEMENTING AND SUPPORTING MICROSOFT PROXY

3.0 units

Total Lecture 44.8 hours, Total Lab 27.2 hours

Advisory: CIS 054B

Prerequisite: CIT 044

Acceptable for credit: California State University

Students will learn to design, install, configure and troubleshoot Proxy Server. The course covers Proxy architecture, methods of controlling Internet access, using Microsoft Management Console to administer Proxy Server. The student will also learn to configure the cache, use Performance Monitor to gather Proxy Server performance statistics, and implement methods for improving performance. This course also covers Web publishing; reverse hosting and reverse proxy, hierarchical and distributed arrays, and packet filtering. *Pass/No Pass Option.*

057A • IMPLEMENTING AND SUPPORTING MS EXCHANGE SERVICES

4.0 units

Total Lecture 54.4 hours, Total Lab 54.4 hours

Advisory: CIS 054B

Prerequisite: CIT 043

Acceptable for credit: California State University

This course provides students with the knowledge and skills required to deploy and administer/support Microsoft Exchange Server. This course covers use of Exchange Server to create and manage recipient objects and maintain an existing Exchange Server organization. Students will also learn to design and implement a new organization; create and manage public folders; perform basic backup procedures; monitor server performance and configure link monitors between connected sites; and manage electronic forms in an organization. *Pass/No Pass Option.*

057B • INSTALLING, CONFIGURING AND ADMINISTERING MS EXCHANGE SERVICES

4.0 units

Total Lecture 54.4 hours, Total Lab 54.4 hours

Advisory: CIS 054B

Prerequisite: CIT 043

Acceptable for credit: California State University

This course provides students with the knowledge and skills required to create, configure and administer the various messaging connectors; configure directory and public folder replication; and configure Exchange Server for connectivity to the Internet. The course also examines how Exchange Server provides for connectivity to foreign messaging systems such as Lotus cc:Mail, Lotus Notes, and Microsoft Mail and Schedule. *Pass/No Pass Option.*

060 • NETWORK ADMINISTRATION

3.0 units

Total Lecture 54.4 hours

Advisory: CIS 054B

Corequisite: CIT 160

Acceptable for credit: California State University

This course provides students with the necessary knowledge and skills to perform fundamental network management tasks on a NetWare 5.1 network. Topics include an introduction to NetWare and NDS, setting up and managing network access for users, managing file system security, implementing Novell Distributed Print Services, and using ZENWORKS for Desktops to manage workstations and application. *Pass/No Pass Option.*

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062 • NETWARE ADMINISTRATION - ADVANCED 2.0 units

Total Lecture 36.8 hours
Prerequisite: CIT 060
Corequisite: CIT 162
Acceptable for credit: California State University

The course is designed to provide students with an advanced skill set and abilities to handle more challenging network situations than were presented in the NetWare 5.1 Administration course. This course is appropriate for Network administrators who have completed the NetWare 5.1 Admin & Net Tech courses or who have acquired the same knowledge & skills from practical job experience administering a NetWare 4 network. *Pass/No Pass Option.*

063 • NDS DESIGN AND IMPLEMENTATION 3.0 units

Total Lecture 36.8 hours, Total Lab 54.4 hours
Advisory: CIS 054B
Prerequisite: CIT 060
Acceptable for credit: California State University

The goal of this course is to provide individuals a solid foundation using the NDS (Novell Directory Services) design. Students will learn how to design and implement an NDS strategy using proven methods from Novell Consulting Services. They will also create and complete an NDS design strategy using supplied templates, which can be reused to create NDS designs in their working environment. *Pass/No Pass Option.*

064 • SERVICE AND SUPPORT 3.0 units

Total Lecture 36.8 hours, Total Lab 54.4 hours
Advisory: CIS 054B
Prerequisite: CIT 060
Acceptable for credit: California State University

The goal of this course is to provide individuals a solid foundation on the prevention, diagnosis, and resolution of hardware-related problems encountered when working with NetWare. While the course assumes the use of NetWare 4.x or NetWare 5.x, the skills learned will have a great deal of practical value to network administrators as they optimize and maintain systems while using many other Novell products. *Pass/No Pass Option.*

067 • INTEGRATING NETWARE WITH WINDOWS O.S. 3.0 units

Total Lecture 36.8 hours, Total Lab 54.4 hours
Advisory: CIS 054B
Prerequisite: CIT 060
Acceptable for credit: California State University

The goal of this course is to provide individuals a solid foundation on the Windows O.S networking and how to integrate Windows O.S with a NetWare network. Students will integrate Windows O.S Workstations, Windows O.S Servers, and Windows NT/2000 domains with a NetWare network. *Pass/No Pass Option.*

070 • DESIGNING A SECURE CHECKPOINT NETWORK I 3.0 units

Total Lecture 54.4 hours
Advisory: CIS 054B
Prerequisite: CIT 024
Acceptable for credit: California State University

Students will learn to design a security framework for small, medium, and enterprise networks using Checkpoint Firewall technologies. Students will learn how to provide secure access to local network users, to remote users and remote offices, between private and public networks and provide secure access to partners. Network security policies, firewall architecture, Virtual Private Networks (VPNs), log management, user authentication, Network Address Translation (NAT), load balancing and content filtering are also taught in the course. This course is part of the Checkpoint Academy. *Pass/No Pass Option.*

072 • DESIGNING A SECURE CHECKPOINT NETWORK II 3.0 units

Total Lecture 54.4 hours
Advisory: CIS 054B
Prerequisite: CIT 024
Acceptable for credit: California State University

This course is the second of the Checkpoint Firewall classes and is aimed at preparing students to pass their CCSE exam. Students will learn to design a security framework for small, medium, and enterprise networks using Checkpoint Firewall technologies. Students will learn how to provide secure access to local network users, to remote users and remote offices, between private and public networks and provide secure access to partners. Advanced security policies, firewall architecture, Virtual Private Network (VPN) implementation, log management, user authentication, Network Address Translation (NAT), load balancing and content filtering are also taught in the course. This course is part of the Checkpoint Academy. *Pass/No Pass Option.*

082 • DBA: ARCHITECTURE AND ADMINISTRATION 3.0 units

Total Lecture 54.4 hours
Prerequisite: CA 084A or CIT 049
Corequisite: CIT 182
Acceptable for credit: California State University

This course is designed to give the Oracle database administrator (DBA) a firm foundation in basic administrative tasks and provide the necessary knowledge and skills to set up, maintain, and troubleshoot an Oracle7, Oracle8, or Oracle8i database. The student learns to use an administration tool to startup and shutdown a database, create a database, manage file and database storage, and manage users and their privileges. In addition, the student learns to organize the database and to move data into and between databases under different environments. Hands-on practices help to reinforce key concepts, and students have an opportunity to troubleshoot real life issues when they are given examples of questions frequently asked of Oracle Worldwide Support. This class is preparation for the Oracle Database Administrator certification exam. *Pass/No Pass Option.*

084 • DBA: BACKUP AND RECOVERY 3.0 units

Total Lecture 54.4 hours
Prerequisite: CIT 082
Corequisite: CIT 184
Acceptable for credit: California State University

This course introduces participants to the critical task of planning and implementing Oracle database backup and recovery strategies. The class addresses backup and recovery techniques and examines various backup, failure, restore, and recovery scenarios. This class includes a one-day interactive workshop that provides participants with the opportunity to walk through numerous real-world backup, restore and recovery case studies. In hands-on exercises, participants examine backup methodologies based on business requirements in a mission critical enterprise. This course is intended for MIS Managers, Application Developers, Database Administrators, Technical Support Professionals, System Administrators, and Network Administrators. *Pass/No Pass Option.*

086 • DBA: PERFORMANCE TUNING 3.0 units

Total Lecture 54.4 hours
Prerequisite: CIT 082
Corequisite: CIT 186
Acceptable for credit: California State University

This course will introduce participants to a series of tuning steps which can be used to improve the performance of the Oracle8i Server. The focus is on database rather than specific operating system performance issues. The course is intended for Application Developers, Technical Support Professionals, Network Administrators, Data Administrators, and MIS Managers. *Pass/No Pass Option.*

088 • DBA: NETWORK ADMINISTRATION 3.0 units

Total Lecture 54.4 hours
Prerequisite: CIT 082
Corequisite: CIT 188
Acceptable for credit: California State University

The Oracle 8i Networking class will enable students to identify networking business trends and security problems. Oracle's networking solutions to the business problems and trends will be presented. Students will learn about Net8 components and will learn how to configure both a simple and more complex Net8 environment. The course is intended for Database Administrators, Application Developers, MIS Managers, Technical Support Professionals, and Network Administrators. *Pass/No Pass Option.*

107 • DISTRIBUTED APPLICATIONS WITH MS VISUAL C++ 3.0 units

Total Lecture 44.8 hours, Total Lab 27.2 hours
Prerequisite: CIT 049
Acceptable for credit: California State University

This course provides students with the knowledge and technical skills required to implement data storage architecture by creating and managing files, file groups, and transaction logs. This course will teach students to use the Microsoft® Visual C++® development system to create component object model (COM) objects using Visual C++ and the Active Template Library (ATL) and to create single document interface (SDI) applications using Microsoft Foundation Class (MFC) and the Visual C++ development system. *Pass/No Pass Option.*

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108 • DISTRIBUTED APPLICATIONS WITH MS VISUAL BASIC

3.0 units

Total Lecture 44.8 hours, Total Lab 27.2 hours
Prerequisite: CIT 049

Acceptable for credit: California State University

This course provides students with the knowledge and technical skills required to create data services, and retrieve and manipulate data by using different cursor location. It includes client-side and server-side or cursor types such as forward-only, static, dynamic, and keyset. Students will learn how to execute a statement on a database and how to return records to a Visual Basic application. *Pass/No Pass Option.*

111 • SERVLETS AND JSP

3.0 units

Total Lecture 36.8 hours, Total Lab 54.4 hours
Prerequisite: GDES 046

Acceptable for credit: California State University

The goal of this course Servlets and JavaServer Pages technology provide a powerful, efficient, portable, and secure alternative to Common Gateway Interface (CGI) programming for developing professional e-commerce sites, Web-enabled applications and to create interactive web pages including secure access to the web site, database interactivity, generate dynamic web pages and maintain client session data (i.e. cookies). *Pass/No Pass Option.*

112 • CLIENT, SERVER AND WEB MANAGEMENT

3.0 units

Total Lecture 36.8 hours, Total Lab 54.4 hours
Prerequisite: GDES 046

Acceptable for credit: California State University

The goal of this course is to develop skills and understanding in designing e-Commerce websites. This is a course that goes beyond "formatting" web pages with HyperText Markup Language (HTML). This course extends web page "functionality" with interactivity, multimedia, security, and database capability using prior knowledge of a scripting language (HTML, JavaScript, etc.). Topics include design principles, examples of scripts (JavaScript, ASP, ActiveX, VBScript, Servlets, JSP, Perl or CGI) and discussion of security (SET, SSL etc.). *Pass/No Pass Option.*

113 • DATABASE FOR THE WEB

3.0 units

Total Lecture 36.8 hours, Total Lab 54.4 hours
Prerequisite: GDES 046

Acceptable for credit: California State University

This is a course that goes beyond mere "desktop" database management. Participants explore dynamic web applications that interact with a database using client-side scripts, server-side scripts, and compiled server programs. Students learn web-enabled databases concepts, relational database principles, Structured Query Language (SQL) and Hyper Text Markup Language (HTML). *Pass/No Pass Option.*

141 • MICROSOFT OS ESSENTIALS LAB

1.0 unit

Total Lab 54.4 hours
Advisory: CIS 054B
Corequisite: CIT 041

Acceptable for credit: California State University

The goal of this lab course is to provide individuals who are new to Microsoft Windows 2000 with the knowledge necessary to understand and identify the tasks involved in supporting Windows 2000 Networks. *Pass/No Pass Option.*

143 • MICROSOFT SERVER LAB

1.0 unit

Total Lab 54.4 hours
Prerequisite: CIT 041
Corequisite: CIT 043

Acceptable for credit: California State University

Students will install and configure Microsoft Windows 2000 Professional on stand-alone computers and on client computers that are part of a workgroup or a domain. In addition, this course provides the skills and knowledge necessary to install and configure Windows 2000 Server to create, file, print, and terminal servers. *Pass/No Pass Option.*

160 • NETWARE ADMINISTRATION LAB

1.0 unit

Total Lab 54.4 hours
Advisory: CIS 054B
Corequisite: CIT 060

Acceptable for credit: California State University

This lab course provides students with the necessary knowledge and skills to perform fundamental network management tasks on a NetWare 5.1 network. *Pass/No Pass Option.*

162 • NETWARE ADMINISTRATION - ADVANCED LAB

1.0 unit

Total Lab 54.4 hours
Prerequisite: CIT 060
Corequisite: CIT 062

Acceptable for credit: California State University

The lab course is designed to provide students with an advanced skill set and abilities to handle more challenging network situations than were presented in the NetWare 5.1 Administration course. *Pass/No Pass Option.*

182 • DBA: ARCHITECTURE AND ADMINISTRATION LAB

1.0 unit

Total Lab 54.4 hours
Prerequisite: CA 084A
Corequisite: CIT 082

Acceptable for credit: California State University

This lab course is designed to give the Oracle database administrator (DBA) a firm foundation in basic administrative tasks and provide the necessary knowledge and skills to set up, maintain, and troubleshoot an Oracle7, Oracle8, or Oracle8i database. *Pass/No Pass Option.*

184 • DBA: BACKUP AND RECOVERY LAB

1.0 unit

Total Lab 54.4 hours
Prerequisite: CIT 082
Corequisite: CIT 084

Acceptable for credit: California State University

This lab course introduces participants to the critical task of planning and implementing Oracle database backup and recovery strategies. *Pass/No Pass Option.*

186 • DBA: PERFORMANCE TUNING LAB

1.0 unit

Total Lab 54.4 hours
Prerequisite: CIT 082
Corequisite: CIT 086

Acceptable for credit: California State University

This lab course will introduce participants to a series of tuning steps which can be used to improve the performance of the Oracle8i Server. *Pass/No Pass Option.*

188 • DBA: NETWORK ADMINISTRATION LAB

1.0 unit

Total Lab 54.4 hours
Prerequisite: CIT 082
Corequisite: CIT 088

Acceptable for credit: California State University

The Oracle 8i Networking lab course will enable students to identify networking business trends and security problems. *Pass/No Pass Option.*

COMPUTER NETWORKING ELECTRONICS TECHNOLOGY (CNET)

(See Technology Studies Department)