Information Technology and Management Information Systems Course Descriptions

2012-2013 Oglala Lakota College Catalog

Information Technology

SCI 113 Technical Writing and Communications
This class will cover the essentials of writing clear, concise proposals, reports, technical manuals, letters, memos, bid specifications, websites and other Information Technology documents. The student will also learn how to conduct a professional presentation. (This course DOES NOT satisfy the Engl 113 requirement for non – Science, Math and Technology programs.) 3 Credit Hours
Prerequisite: Engl 103 Freshman English I

IT 103 Theory of Computational Devices
This is a survey course of today's personal computers, networks, data, and other new technologies. Some of the topics covered include algorithms, operating systems, data storage and manipulation, networking and the Internet, software engineering and artificial intelligence. 3 Credit Hours

IT 134 A+ Certification
This course will prepare you to pass the A+ certification exams as required to become a computer service technician. You are prepared for the A+ exam in areas like assembly and dis-assembly of PCs, diagnosing and troubleshooting, basic networking, Windows and DOS. (3,2) 4 Credit Hours
Prerequisite: IT 103 Theory of Computational Devices

IT 153 Survey of Operating Systems
You will explore the differences between popular operating systems offered in today's marketplace. Operating Systems include, but not limited to Windows and UNIX. (2,2) 3 Credit Hours
Prerequisite: IT 103 Theory of Computational Devices

IT 203 Programming
You will be exposed to the fundamental concepts of problem solving and developing program logic using tools and techniques of programming. Topics include algorithm development, diagramming and program documentation and incorporating a programming language for hands-on application of programming concepts. C++ will be from UNIX. (2,2) 3 Credit Hours
Prerequisite: IT 103 Theory of Computational Devices, Math 154 College Algebra

IT 224 PC Design and Assembly
Participants will be able to identify essential components of a typical PC system and how they interact with each other. By the end of the semester, participants will be able to construct a working PC system complete with operating system. (2,4) 4 Credit Hours
Prerequisite: IT 134 A+ Certification

IT 243 Introduction to Networks
Physical and logical network topologies; transmission media and network access will be examined. Hardware and software network configurations, operations and requirements will be discussed. Topics include communication codes, transmission media, encoding methods, the OSI model, network standards and protocols. Copyright issues and ethics involved with computer operations will be discussed. 3 Credit Hours
Prerequisites: IT 153 Survey of Operating Systems

IT 253 Supporting Workstations
Focuses on the skills necessary to install and manage a GUI workstation environment. The basic areas you will cover include installation and configuration, architectural overview, user interface, memory management, file I/O, network administration, communications and printing, disk utilities, troubleshooting, and multimedia. Linux and Windows XX systems will be used. (2,2) 3 Credit Hours
Prerequisite: IT 134 A+ Certification

IT 273 Information Systems Management
A study of the Systems Development Life Cycle including problem investigation, determination of systems requirements, selection of solutions, feasibility studies, cost projections and proposal writing for existing or new systems. 3 Credit Hours
Prerequisite: SCI 113 Technical Writing or Engl 103 Freshman English I

IT 290a, IT 290b Internship in Information Technology
This course will be offered each semester. It is designed to introduce you to the rigors of being an Information Technology professional. You are expected to work 40 hours during the semester for each hour of credit. I Credit Hour -- up to 2 credits can be earned per semester.
Prerequisite: Freshman or Sophomore Status

IT 303 Introduction to UNIX
You will be given an introduction to UNIX operating system with specific reference to UNIX commands, the Unix file structure, editors, and shell programming. Includes an introduction to system administration and security. (2,2) 3 Credit Hours
Prerequisite: IT 153 Survey of Operating Systems

IT 313 Unix Shell Programming
UNIX is a versatile multi-user, multitasking operating system. UNIX has a structural software tool design philosophy that is essential for producing reliable, maintainable, and portable programs. You will cover the essential aspects of UNIX Shell programming such as the Bourne shell and shell scripts. In this class you will learn to manage UNIX files and directories using the UNIX shell commands, work with shell variables, metacharacters and regular expressions, use shell commands to redirect input, output and error messages, and archive files in the background and write different types of shell scripts. (2,2) 3 Credit Hours
Prerequisite: IT 153 Survey of Operating Systems

IT 323 Command Line Interface
Command line concepts and syntax to perform directory hierarchy maintenance, I/O redirection, pipes, and device and system maintenance using variables and switches are topics of the command line interface course. The Disk Operating System (DOS) and UNIX dialects will be studied. 3 Credit Hours
Prerequisite: IT 153 Survey of Operating Systems

IT 333 Network Administration
This course will acquaint you to a network environment and to provide basic entry-level skills in network administration. Hands-on exercises will allow you to become familiar with popular network operating system's management utilities including printing services, storage devices and setup of networking protocols. (2,2) 3 Credit Hours
Prerequisite: IT 243 Introduction to Networks, IT 253 Supporting Workstations

IT 343 Application Software TnT
This course will help you to develop problem-solving tactics to help end users overcome difficulties with their application program. Training aspects and how you can take a proactive approach for training end users on application programs will be investigated. 3 Credit Hours
Prerequisite: SCI 113 Technical Writing, IT 253 Supporting Workstations

IT 353 Internet Technologies
This course is aimed at giving you a comprehensive overview of Internet technologies. You will learn about the history of the Internet, how to use a wide array of Internet technologies, Internet trends and current issues relating to the Internet. Students will also learn the key skills required to create attractive, well-designed, secure WEB sites that meet the goals of a business organization. (2,2) 3 Credit Hours
Prerequisite: IT 253 Supporting Workstations

IT 363 Implementing and Administrating Web Servers
In this course you will learn the fundamentals of designing, installing, configuring, maintaining and upgrading your web site. Protocols presented include HTTP, HTTPS, FTP and SSH. Concepts covered include the use of indexed pages, directory hierarchy, SSL Certificates, SSI designs (ASP, CGI, JSP, PHP) and Streaming Media. Management of server logs, users and groups as they pertain to Web Servers will also be covered. (2,2) 3 Credit Hours
Prerequisite: IT 243 Introduction to Networking

IT 373 Web Design Fundamentals
This course will explore aspects of the design and creation of web sites including the initial planning, design, implementation and publishing. With an emphasis on design, we will use web design tools such as HTML, Dreamweaver, Fireworks, and Photoshop Elements for the web will be covered. Copyright issues will also be covered. Students will design and publish a personal web page as part of the course. There will be a course web site with relevant URLs for that day's topic. 3 Credit Hours
Prerequisite: IT 243 Introduction to Networking, IT 323 Command Line Interface

IT 383 Current Topics in Information Technology
Offers current topics from the area of Information Technology systems. 3 Credit Hours
Prerequisite: Junior Status

IT 393 Implementing and Administrating Mail Servers
In this course you will learn the fundamentals of designing, installing, configuring, maintaining and upgrading your email site. Protocols that will be covered include SMTP, ESMTP, IMAP and POP3. Concepts covered include the communications dialogs between MUA, MSA, MTA, MRA and MDA, the design of the MX priority, antivirus and spam prevention techniques, email relays and mail encryption. Management of server logs, users and groups as they pertain to Email Servers will also be covered. (2,2) 3 Credit Hours
Prerequisite IT 243 Introduction to Networking, IT 323 Command Line Interface

IT 404 Network Protocols
Focuses on TCP/IP using Microsoft Windows NT and UNIX. Topics include UNIX and Microsoft TCP/IP addressing, subnet addressing, implementing IP routing, dynamic host configuration protocol, IP, IPX/SPX, ATM address resolution, Net BIOS name resolution, Windows Internet name service, host name resolution, connectivity, and troubleshooting. (3,2) 4 Credit Hours
Prerequisite: IT 243 Introduction to Networking, IT 323 Command Line Interface

IT 414 Advanced NT
You will learn the installation and configuration of Windows NT Server and Workstation with an emphasis on the management and administration of user hardware and software resources. Hands on application of network administration principles on an operational NT Network is provided. (2,4) 4 Credit Hours
Prerequisite: IT 153 Survey of Operating Systems, IT 253 Supporting Workstations

IT 423 Supporting Network Operating Systems
Advanced network commands and utilities will be demonstrated to you to further supplement the skills required by a network administrator. Directory structures, security, printing and network administration will be covered. Troubleshooting methods and procedures will be discussed for workstations, servers and related hardware, and printing systems. Hardware and software to aid with problem identification and resolution will be discussed and demonstrated where possible. Network optimization and disaster recovery will be covered as well as copyright issues and ethics involved with computer operations. (2,2) 3 Credit Hours
Prerequisite: IT 153 Survey of Operating Systems, IT 253 Supporting Workstations, IT 333 Network Administration

IT 443 Advanced UNIX
This course is for users interested in becoming UNIX administrators. In this course we will identify the hardware requirements for a UNIX system, the features of job control, the guidelines for managing disk space usage, the benefits of networking, the features of Transmission Control Protocol/Internet Protocol (TCP/IP), the requirements for remote access, the features of Network Information Services (NIS) and the features of Lightweight Directory Access Protocol (LDAP). (2,2) 3 Credit Hours
Prerequisite: IT 303 Introduction to UNIX

IT 453 Network Security
Provides you with the essential concepts and methods for the network security. Topics covered include physical/logical security and different methods of implementation, data encryption/decryption. There will be discussions of commercial and open source products for firewall, proxy, cache and NAT.
(2,2) 3 Credit Hours
Prerequisite: IT 323 Command Line Interface, IT 333 Network Administration, IT 404 Network Protocols, May be taken concurrent with IT 474

IT 474 Network Analysis
Provides you with the theory and methodologies for designing and analyzing network systems. Topics that you will cover include techniques used by computer professionals to determine, document, and analyze the network requirements; assessing the hardware/software needs of an organization. Emphasis will be on problem solving and cost-analysis in a networking environment. (2,3) 4 Credit Hours
Prerequisite: IT 323 Command Line Interface, IT 333 Network Administration, IT 404 Network Protocols, May be taken concurrent with IT 453

IT 490a, IT 490b Internship in Information Technology
This course will be offered each semester. It is designed to introduce you to the rigors of being an Information Technology professional. You are expected to work 40 hours during the semester for each hour of credit. I Credit Hour -- up to 2 credits can be earned per semester.
Prerequisite: Junior or Senior Status

IT 402 Certification Cram Session in Current Technologies Test #1
This class will help you study for certifications in current technology. These include but not limited to: operating systems, networking technologies, application software and communication technologies. (1,2) 2 Credit Hours
Prerequisite: Senior status,

IT 412 Certification Cram Session in Current Technologies Test #2
This class will help you study for certifications in current technology. These include but not limited to: operating systems, networking technologies, application software and communication technologies. (1,2) 2 Credit Hours
Prerequisite: Senior status

IT 422 Certification Cram Session in Current Technologies Test #3
This class will help you study for certifications in current technology. These include but not limited to: operating systems, networking technologies, application software and communication technologies. (1,2)
2 Credit Hours
Prerequisite: Senior status

IT 432 Certification Cram Session in Current Technologies Test #4
This class will help you study for certifications in current technology. These include but not limited to: operating systems, networking technologies, application software and communication technologies. (1,2)
2 Credit Hours
Prerequisite: Senior status

IT 442 Certification Cram Session in Current Technologies Test #5
This class will help you study for certifications in current technology. These include but not limited to: operating systems, networking technologies, application software and communication technologies. (1,2)
2 Credit Hours
Prerequisite: Senior status

IT 494 Capstone Project
This Capstone Project course develops an integrated understanding of the student's overall program. It project focuses on the best practices and techniques in Management Information Systems and Security. As a major part of the Capstone course, students will be responsible for completing a Capstone project. This project must be submitted to the Program Chair for approval prior to beginning the project.
4 Credit Hours
Prerequisite: Senior status

Management Information Systems

MIS 113 Applied Information Processing
An applied course designed to meet the needs of today's college students across the disciplines. Topics include, but are not limited to: computers based training techniques and on-line testing, E-mails and attachments, on-line conferences, delimited web-based research techniques, software applications, e-slides and web page presentation/publishing tools, and report writing documentation.
3 Credit Hours

MIS 143 Introduction to Spreadsheets
This is a continuation of the study of spreadsheets emphasizing the advanced features of functions, macros and business graphics. 3 Credit Hours
Prerequisite: MIS 113 Applied Information Processing

MIS 213 Concepts of Database Management
An introduction to Data Base Management Systems (DBMS). Topics include but not limited to: relational models, keys, functions, queries, reports and management of database systems. 3 Credit Hours
Prerequisite: MIS 113. Applied Information Processing

MIS 243 Data Based Applications and Design
A continuation of the study of database emphasizing data base concepts, design and management techniques. 3 Credit Hours
Prerequisite: MIS 113 Applied Information Processing

MIS 333 Database Development and Design I
The first of two courses uses and applied approach to learning MySQL, a database management (DBMS). Topics include but not limited to: table creation, constraints, data manipulation and users.
3 Credit Hours
Prerequisite: MIS 243 Introduction to Networking

MIS 343 E-Commerce Technology
This course provides the student an introduction to e-commerce technologies. Topics include but not limited to: the on-line presence, data security, payment systems and legal/ethical issues.3 Credit Hours
Prerequisite: MIS 333 Network Administration

MIS 413 Systems Analysis and Design
This course will provide the student acceptable approaches to system analysis, design and implementation. Students will begin with systems analysis, determining system requirements, evaluating systems and designing and implement a system.3 Credit Hours
Prerequisite: IT 273 Business Information Systems Management

MIS 423 Database Development and Design II
The second of two courses uses an applied approach to learning MySQL, a database management system (DBMS). Topics include but not limited to: sorts, joins, group functions, output and SQL.3 Credit Hours
Prerequisite: MIS 333 Network Administration

MIS 374 Structured Query Language and Reporting
SQL and Reporting is a course designed to provide SQL mastery.4 Credit Hours
Prerequisite: MIS 243 Introduction to Networking