

# INFORMATION TECHNOLOGY (IT)

## IT 11000 INTRODUCTION TO OFFICE PRODUCTIVITY APPS 3 Credit Hours

(Equivalent to CIS 24053) Covers the basic concepts and use of computer systems, including hardware, personal productivity software, Internet usage and file management.

**Prerequisite:** None.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**Attributes:** TAG Business

## IT 11002 VISUAL BASIC PROGRAMMING 3 Credit Hours

Visual Basic.NET language introducing concepts of object-oriented, event-driven program design and implementation.

**Prerequisite:** None.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

## IT 11004 SURVEY OF INFORMATION TECHNOLOGY 3 Credit Hours

Overview introduction to information technologies, career paths and professional certifications available.

**Prerequisite:** None.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

## IT 11005 INTRODUCTION TO OPERATING SYSTEMS AND NETWORKING TECHNOLOGY 3 Credit Hours

Survey of desktop and network operating systems essentials, including file and disk management, system tools utilization, security concepts, resource sharing and introductory network concepts. Students will learn about a variety of operating systems including mobile devices. Students will learn fundamentals of networking including network devices, cabling, numbering systems and network models.

**Prerequisite:** None.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

## IT 11006 INTRODUCTION TO WEB SITE TECHNOLOGY 3 Credit Hours

Focuses on website technologies, including HTML. Students learn the history of the Internet and effective search techniques.

**Prerequisite:** None.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

## IT 11009 COMPUTER ASSEMBLY AND CONFIGURATION 4 Credit Hours

Covers disk operating system functions and features; hardware/software installation procedures; file and directories management; system configuration/optimization; backup procedures; security; access control. The course will cover networking, mobile devices, servers and user management.

**Prerequisite:** CS 33211 or IT 11005.

**Schedule Type:** Lecture

**Contact Hours:** 4 lecture

**Grade Mode:** Standard Letter

## IT 12000 INTERMEDIATE OFFICE PRODUCTIVITY APPS 3 Credit Hours

Covers intermediate concepts and integration of computer applications. Emphasis on software suites, specifically word processing, electronic spreadsheets, database and presentation applications.

**Prerequisite:** None.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

## IT 13000 APPLIED SECURITY ESSENTIALS 3 Credit Hours

Course covering a basic introduction to securing connected devices.

Topics include computer security, Internet security and mobile security.

**Prerequisite:** None.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

## IT 20001 C++ PROGRAMMING 3 Credit Hours

Course using C++ introducing concepts of software development, object-oriented event-driven programming, testing and debugging, simple and complex data types language syntax and semantics.

**Prerequisite:** None.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

## IT 20011 JAVA PROGRAMMING 3 Credit Hours

Course using Java introducing concepts of software development, object-oriented event-driven programming, testing and debugging, simple and complex data types, language syntax and semantics.

**Prerequisite:** None.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

## IT 20021 C# PROGRAMMING 3 Credit Hours

Introductory concepts of C#: development environment, variables, decisions, looping, arrays, strings, methods, exception and event handling.

**Prerequisite:** None.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

## IT 21002 NETWORK SETUP AND CONFIGURATION 3 Credit Hours

Introduces networking in local area network (LAN), wide area network (WAN), and Cloud environments. Topics include network hardware, numbering systems, protocols, configuration, operation, setup, installation, administration, management and security. Students will also learn and practice troubleshooting strategies.

**Pre/corequisite:** IT 11009.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

## IT 21005 VISUAL BASIC DATABASE PROGRAMMING 4 Credit Hours

Advanced course in the visual basic language focusing on database systems development.

**Prerequisite:** CIS 24065 or CS 13001 or EMAT 25310 or IT 11002.

**Schedule Type:** Lecture

**Contact Hours:** 4 lecture

**Grade Mode:** Standard Letter

**IT 21007 CYBER ETHICS IN INFORMATION TECHNOLOGY 3 Credit Hours**

Covers the ethics, issues and policies regarding the Internet. Course includes discussion/research on intellectual property/freedom, hacking, pornography and privacy.

**Prerequisite:** None.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 21009 SEMINAR IN INFORMATION TECHNOLOGY 3 Credit Hours**

Capstone course encompassing critical thinking, reflection, writing and discussion applying current theories of IT to on-the-job experiences and roles, with an emphasis on preparation for a career in IT. Students develop a portfolio to confirm their level of knowledge.

**Prerequisite:** IT 11005 and IT 11006 and IT 11009 and IT 21002 and IT 21010.

**Schedule Type:** Seminar

**Contact Hours:** 3 other

**Grade Mode:** Standard Letter

**IT 21010 WORKGROUP PRODUCTIVITY SOFTWARE 3 Credit Hours**

Research project-oriented course emphasizing workgroup methodologies for group project management, problem definition, data retrieval and analysis, conclusions and recommendations.

**Prerequisite:** IT 12000; or OTEC 16639 and OTEC 26611.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 21011 TECHNIQUES OF MULTIMEDIA WEB DESIGN 3 Credit Hours**

Focuses on developing and managing effective web sites using multimedia elements, including sound and video.

**Prerequisite:** IT 11006 or EMAT 13210.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 21036 WEB SCRIPTING I 3 Credit Hours**

Course focuses on client-side scripting needed to create interactive and dynamic websites. The use of scripting in context with various technologies is explored.

**Prerequisite:** CS 13001 or CIS 24065 or EMAT 25310 or (IT 11002 and IT 11006).

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 21092 PRACTICUM FOR INFORMATION TECHNOLOGY (ELR) 1-3 Credit Hours**

(Repeatable for credit) Supervised work experience in information technology environment; 45 hours supervised work experience per credit hour.

**Prerequisite:** Sophomore standing.

**Schedule Type:** Practical Experience

**Contact Hours:** 3-9 other

**Grade Mode:** Standard Letter

**Attributes:** Experiential Learning Requirement

**IT 21095 SPECIAL TOPICS IN INFORMATION TECHNOLOGY 1-4 Credit Hours**

(Repeatable for credit) Topics announced when scheduled.

**Prerequisite:** Special approval.

**Schedule Type:** Lecture

**Contact Hours:** 1-4 lecture

**Grade Mode:** Standard Letter

**IT 21096 INDIVIDUAL INVESTIGATION IN INFORMATION TECHNOLOGY 1-4 Credit Hours**

(Repeatable for credit) Individual study in computer field.

**Prerequisite:** Special approval.

**Schedule Type:** Individual Investigation

**Contact Hours:** 7-28 other

**Grade Mode:** Standard Letter

**IT 21100 LOCAL AREA NETWORK TROUBLESHOOTING 3 Credit Hours**

Covers local area network troubleshooting techniques. Topics include identifying the scope of the problem, systematic troubleshooting approaches, problem resolution and ongoing maintenance.

**Prerequisite:** CS 33211 or IT 21002 or; ENGR 23010.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 21110 NETWORK ROUTING AND SWITCHING 3 Credit Hours**

Course covering internetworking concepts. Topics include networking standards, network designs, cabling, Transmission Control Protocol/Internet Protocol (TCP/IP), routing protocols, switch and router configuration, local area network (LAN) and wide area network (WAN) segments, virtual local area network (VLAN) and other related topics.

**Prerequisite:** CS 33211 or IT 21002; or ENGR 23010.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 21200 ETHICAL HACKING 3 Credit Hours**

Tools and techniques ethical hackers and security testers use to discover vulnerabilities and solutions to protect computer networks.

**Prerequisite:** CS 33211 or IT 21002; or ENGR 23010.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 21300 INTRODUCTION TO SECURITY INCIDENT MANAGEMENT 3 Credit Hours**

Course covering an introduction to defending against cyber attackers.

**Prerequisite:** IT 21002.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 22000 SURVEY OF IT CYBERSECURITY 3 Credit Hours**

Course introduces students to cybersecurity in information technology. Topics include authentication, encryption, enterprise computing, the role of users in security, data management and end-to-end security in networking.

**Prerequisite:** CS 33211 or IT 21002; or ENGR 23010.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 23000 INTRODUCTION TO OPERATING SYSTEM SECURITY 3****Credit Hours**

Course introducing operating system security configurations, considerations, and best practices.

**Prerequisite:** CS 33211 or ENGR 23010 or IT 21002.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 24000 DEVELOPING AND IMPLEMENTING SECURITY POLICIES 3****Credit Hours**

This course covers governance, legal considerations, and regulations related to information security policy development and implementation.

**Prerequisite:** CS 33211 or IT 21002; or ENGR 23010.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 26315 CERTIFICATION PREP IN INFORMATION TECHNOLOGY 3****Credit Hours**

Certification preparation course helps students prepare for professional certification attempts in Information Technology. Certification is not guaranteed. Certification fees may apply.

**Prerequisite:** Special approval.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 30000 PYTHON PROGRAMMING IN INFORMATION TECHNOLOGY 3****Credit Hours**

Python language introducing object-oriented programming concepts utilized in various roles in the IT field. Topics include: implementation, variables, file and exception handling, control/data structures, functions, collections and modules.

**Prerequisite:** None.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 31002 HEALTH INFORMATION TECHNOLOGY SUPPORT 3****Credit Hours**

Course covers skills and knowledge required to implement and support healthcare IT (HIT) systems including regulatory and compliance issues; organizational behavior, IT and medical business operations; best practices and security.

**Prerequisite:** Junior standing.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 36095 SPECIAL TOPICS IN INFORMATION TECHNOLOGY 1-3****Credit Hours**

(Repeatable for credit) Special topics from all areas of information technology.

**Prerequisite:** None.

**Schedule Type:** Lecture

**Contact Hours:** 1-3 lecture

**Grade Mode:** Standard Letter

**IT 36301 ADVANCED C++ PROGRAMMING 4****Credit Hours**

Course using C++ classes and data abstraction, stream IO, inheritance, standard template library, Microsoft Foundation Classes, system programming concepts using Unified Modeling Language.

**Prerequisite:** IT 20001.

**Schedule Type:** Lecture

**Contact Hours:** 4 lecture

**Grade Mode:** Standard Letter

**IT 36302 ADVANCED C# PROGRAMMING 3****Credit Hours**

Advanced concepts of C# including classes and objects, inheritance, polymorphism, arrays, exception handling, files and streams and Extensible Application Markup Language (XAML).

**Prerequisite:** IT 20021.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 36303 DIGITAL IMAGE EDITING 3****Credit Hours**

Course covers various concepts involved in the creation and manipulation of digital images.

**Prerequisite:** Sophomore standing.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 36308 ERGONOMICS AND USABILITY IN INFORMATION TECHNOLOGY 3****Credit Hours**

Introduction to ergonomics, usability design and assessment methods for the development of computer hardware, software and systems.

**Prerequisite:** Junior standing.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 36309 PROGRAMMING MOBILE APPLICATIONS 3****Credit Hours**

Introduces the unique program design considerations required by mobile devices. The course focuses on creating programs that can be deployed on different devices.

**Prerequisite:** CIS 24065 or CS 13001 or EMAT 25310 or IT 11002 or IT 20001 or IT 20011 or IT 20021.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 36310 MULTIMEDIA DEVELOPMENT TOOLS 3****Credit Hours**

Course focuses on advanced technologies for Web development, including DHTML, plug-ins, etc. Students learn to create more interactive and dynamic websites.

**Prerequisite:** IT 21011.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 36311 ADVANCED JAVA PROGRAMMING 4****Credit Hours**

Course using Java abstract data types and objects, object-oriented, event-driven design, file organization and access, and systems programming concepts.

**Prerequisite:** IT 20011.

**Schedule Type:** Lecture

**Contact Hours:** 4 lecture

**Grade Mode:** Standard Letter

**IT 36314 SEMINAR IN EMERGING COMPUTER AND INFORMATION TECHNOLOGIES 3 Credit Hours**

Survey of new and emerging technologies in computer and information technology.

**Prerequisite:** Junior standing.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 36318 SURVEY OF INFORMATION SECURITY, INTERNET FRAUD AND COMPUTER FORENSICS (WIC) 3 Credit Hours**

Course provides a non-technical introduction to contemporary issues in information security, Internet fraud and computer forensics.

**Prerequisite:** ENG 21011 or HONR 10297; and junior standing.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**Attributes:** Writing Intensive Course

**IT 36320 COMPUTER FORENSICS 3 Credit Hours**

Hands-on skills in incident response, forensic preparation and data recovery and analysis.

**Prerequisite:** CS 33211 or IT 21002; or ENGR 23010.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 36321 NETWORK FORENSICS 3 Credit Hours**

Emphasizing hands-on skills in live incident response, the proper use of network forensic tools, network monitoring, live data capture, evidence analysis, data integrity and other related topics.

**Prerequisite:** CS 33211 or IT 21002; or ENGR 23010.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 36322 SOCIAL MEDIA AND MOBILE DEVICE FORENSICS 3 Credit Hours**

Course covers data collection and analysis techniques for social media and mobile devices.

**Prerequisite:** Junior standing.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 36330 NETWORK SECURITY FUNDAMENTALS 3 Credit Hours**

Examines the primary issues involved in securing resources in networked environment, including threat assessment, countermeasures, best practices, security protocols, cryptography and management-related issues.

**Prerequisite:** CS 33211 or IT 21002; or ENGR 23010.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 36331 ADVANCED ROUTING AND SWITCHING 3 Credit Hours**

Reinforcing Internetworking concepts. Topics include network standards, LAN switching, VLANs, network designs, routing protocols and configuration, LAN and WAN segments, and other related topics.

**Prerequisite:** IT 21110.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 36336 WEB SCRIPTING II 3 Credit Hours**

Focuses on server-side scripting needed to create interactive and dynamic websites.

**Prerequisite:** IT 21036.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 36339 CLOUD AND VIRTUALIZATION TECHNOLOGIES IN INFORMATION TECHNOLOGY 3 Credit Hours**

Covers the basics of the common cloud computing and major virtualization technologies and their place in the modern enterprise.

Topics include foundational understanding of virtualization implementations and tools; and how to plan, install, manage, configure, monitor and secure public, private, hybrid, cloud and service models for platform, software, infrastructure and other technologies.

**Prerequisite:** Junior or senior standing.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 36340 HELP DESK SUPPORT 3 Credit Hours**

Examination of help desks that exist, importance within organizations, the roles and skills required, and methods and technologies commonly employed.

**Prerequisite:** IT 11009 or ENGR 23010.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 36350 PROGRAMMING OFFICE PRODUCTIVITY APPLICATIONS 3 Credit Hours**

Introduces the use of Visual Basic for Applications (VBA) as a tool to create customized programs that automate repetitive and/or complex tasks performed using office suite applications.

**Prerequisite:** IT 11002 and IT 21010.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 36355 COMMAND LINE UTILITIES 3 Credit Hours**

Course prepares students to perform effectively in Windows, Linux and various server command line environments. Topics include command syntax, batch files, script files and internal and external commands.

**Prerequisite:** CS 33211 or EMAT 25310 or IT 21002; or ENGR 23010.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 36392 INTERNSHIP FOR INFORMATION TECHNOLOGY STUDENTS (ELR) 1-3 Credit Hours**

(Repeatable for Credit) An arranged work experience for students in the information technology field. Students complete 45 hours of internship per credit.

**Prerequisite:** Junior standing.

**Schedule Type:** Practical Experience

**Contact Hours:** 3-9 other

**Grade Mode:** Standard Letter

**Attributes:** Experiential Learning Requirement

**IT 36396 CERTIFICATION PREPARATION IN INFORMATION TECHNOLOGY 3 Credit Hours**

(Repeatable for Credit) Certification preparation course to help students prepare for professional certification attempts in information technology. Certification is not guaranteed and certification fees may apply.

**Prerequisite:** Special approval.

**Schedule Type:** Individual Investigation

**Contact Hours:** 3 other

**Grade Mode:** Standard Letter

**IT 40000 CYBERSECURITY 3 Credit Hours**

Builds on a background in networking and focuses on cybersecurity best practices, standard models and regulatory requirements.

**Prerequisite:** CS 33211 or IT 21002; or ENGR 23010.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 41002 CLOUD TECHNOLOGY 3 Credit Hours**

Course introduces the concepts and fundamentals of cloud computing and gives an understanding of the many services that are available to cloud technology, as well as the benefits and risks when compared to on-site methods. Cloud technology in networking, incident response/disaster recovery, data storage, virtualization, management, monitoring, security, and automation are also discussed.

**Prerequisite:** CS 33211 or IT 21002; or ENGR 23010.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 41010 MOBILE APPLICATIONS FOR INFORMATION TECHNOLOGY 3 Credit Hours**

Course covers enterprise mobility technical concepts, strategies, and solutions across various domains and industries. Includes topics such as organizational issues, IT and business operations; and best practices and security.

**Prerequisite:** Junior standing.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 42000 SOCIAL MEDIA SECURITY 3 Credit Hours**

Personal and corporate social media presence, security risks, intellectual property and ethical issues.

**Prerequisite:** Junior standing.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 43000 HEALTHCARE INFORMATION SYSTEMS 3 Credit Hours**

Course focuses on the roles and responsibilities of the health information technology professional including the technology, legal and ethical responsibilities and complex systems and environment.

**Prerequisite:** Junior standing.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 46300 ADVANCED COMPUTER ASSEMBLY AND CONFIGURATION 3 Credit Hours**

Focus is on advanced system components, streamlined operating system installation procedures, and current technology in local area network (LAN) connectivity.

**Prerequisite:** IT 11009; and junior standing.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 46303 DIGITAL VIDEO EDITING 3 Credit Hours**

Utilizes digital imaging technologies to produce videos. Includes timelines; filming, importing/exporting video; audio; effects, transitions and captions.

**Prerequisite:** IT 36303.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 46308 ADVANCED VISUAL BASIC PROGRAMMING 3 Credit Hours**

Advanced concepts of visual basic, including classes and objects, inheritance, polymorphism, arrays, exception handling, files and streams and dynamic-link library (DLL).

**Prerequisite:** CIS 24065 or CS 13001 or EMAT 25310 or IT 11002.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 46309 ASP.NET WEB PROGRAMMING 3 Credit Hours**

Using Visual Studio and the ASP.NET platform to develop secure, data-aware web applications. Topics covered include HTML and CSS, testing and debugging, master pages, state management, security and authentication, SQL and object data sources.

**Prerequisite:** CIS 24065 or CS 13001 or EMAT 25310 or IT 11002 or IT 20021.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 46311 TECHNOLOGY OF NETWORKING 3 Credit Hours**

Advanced topics of enterprise LAN/WAN/Cloud management, including DNS, DHCP, IP addressing, routing basics, subnet masking, firewalls, storage redundancy techniques, network update and security, cloud services and general tuning, optimizing, troubleshooting, recovery.

**Prerequisite:** CS 33211 or IT 21002; or ENGR 23010.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 46313 VIRTUAL MACHINE CONFIGURATION AND ADMINISTRATION 3 Credit Hours**

Focus on configuring and administering virtual machine software in a variety of environments including desktop and network solutions.

**Prerequisite:** IT 21002 and IT 36339; or ENGR 26305 and ENGR 27100.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 46314 ADVANCED SERVER CONFIGURATION 3 Credit Hours**

Course focus is on the core service roles provided by application services, including configuration, maintenance and security.

**Prerequisite:** CS 33211 or IT 21002; or ENGR 23010.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 46315 SQL WITH ORACLE 3 Credit Hours**

Focus is on Structured Query Language. (SQL) and relational databases using Oracle, a comprehensive and fully integrated stack of cloud applications and platform services.

**Prerequisite:** CIS 24065 or CS 13001 or EMAT 25310 or IT 21005.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 46320 CLOUD FORENSICS 3 Credit Hours**

Concepts of cloud forensics, including legal consideration and software tools involved with discovery in the cloud.

**Prerequisite:** CS 33211 or IT 21002; or ENGR 23010.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 46331 NETWORK SECURITY AND FIREWALLS 3 Credit Hours**

Course examines the primary issues involved in defining and configuring network defense perimeter, including security analysis, monitoring networks, implementing firewalls and intrusion detection systems.

**Prerequisite:** IT 36330.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 46340 DATA DESIGN AND IMPLEMENTATION 3 Credit Hours**

Explores the role and design of databases in organizations, with emphasis on the technologies used in their implementation. Emphasis on Structured Query Language (SQL).

**Prerequisite:** IT 21005 and IT 21010.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**IT 46350 DATABASE ADMINISTRATION AND REPORTING TOOLS 3 Credit Hours**

Examines the role of database administrator, focusing on maintaining, validating and securing data along with use of report writing tools, techniques and best practices.

**Prerequisite:** IT 21005 and IT 21010.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter