

INFORMATION TECHNOLOGY (IT)

IT-1001 Computer Tools (3 Credits)

In this course students will perfect their ability to interpret primary and secondary sources, recognize when information is needed and to locate, evaluate, and effectively communicate information using appropriate technologies. Including an overview of computers, the Internet, Web 2.0 technologies, Office applications, and data management. You will also learn the fundamentals of computer security, which will enable you to protect your information from the various dangers that exist online. Lab fee.

Fulfills General Education Requirement: ITML1

Typically offered: All Sessions

IT-1002 App Design & Development in the Humanities (3 Credits)

This course will introduce students to the fundamental principles of computing and the building blocks of programming, teaching how to write fun and useful apps using the Xcode development environment. Students will use computers to creatively design and develop apps for iOS mobile devices such as iPhones and iPads integrating digital media with app design. The course topics are targeted specifically to enhance and promote humanities research and engagement.

Fulfills General Education Requirement: ITML1

Typically offered: All Sessions

IT-1102 Multimedia Design (3 Credits)

Requisite(s): IT-1001

This course develops core concepts and practical skills in multimedia design and production. Practical experience is offered in project planning and development including design, production and prototyping, testing, and publishing. The course provides effective techniques for preparing graphics, animation, text, digital audio and video for multimedia applications including CD-Rom titles, websites, marketing presentations, and interactive kiosks. Among the key software tools explored are, Microsoft Publisher, Microsoft PowerPoint, iMovie, Adobe Photoshop CS5, Adobe Illustrator CS5 And Adobe InDesign CS5. Lab fee.

Typically offered: Spring Only

IT-1103 Computer-Based Information Systems (3 Credits)

Requisite(s): IT-1001

Information technology has radically changed the internal operations of organizations and market places in which they compete. The tool kit of skills of the business professional must include the understanding of the fundamentals of information technology and its impacts on the other areas of business—strategic management, finance, accounting, marketing, and operations. This course is intended to provide the basic set of skills. Although it is necessary to have a technology basis, the focus will be on how technology can be applied in business, how it can be used to create products, how it can serve as an agent of change in reorganizing business processes, and how it can radically improve business decision making. Lab fee.

Typically offered: All Sessions

IT-1104 Programming I (3 Credits)

Requisite(s): IT-1103, MAT-1104 or higher

This course stresses three major themes: a rigorous introduction to the process of algorithm problem solving, the organization of computers upon which the resulting programs run, and an overview of the logical and ethical context in which the field of computing exists. Topics include basic ideas on arithmetic problem solving and programming, principles of top-down design, step-wise refinement, and procedural abstraction. Introduction to programming in a structural programming language, basic control structures, data types, and input/output conventions. Lab fee.

Typically offered: All Sessions

IT-1105 Game Programming Using Visual Basic (3 Credits)

Requisite(s): IT-1001

This course is an introduction to game program design and development. Students will use an object-oriented approach to the game program development process involving the following series of steps: find a game idea, identify the audience, identify the game features, determine the look and feel of the game including the interface, create specifications detailing the game rules, create the source code, test the source code, and perform quality assurance. This approach helps students to build multilingual programming and analysis capabilities. Students will use Microsoft Visual Basic to build and execute their game programs. Lab Fee.

Typically offered: All Sessions

IT-1106 Introduction to App Development for Mobile Devices (3 Credits)

Requisite(s): IT-1001

This course is designed to provide an introduction to app development for mobile devices. Students will learn to use the iPhone SDK set of development tools for creating applications for the iPad, iPhone and iPod touch devices by utilizing the iPhone SDK's Xcode, Interface Builder, and UIKit framework to build and design apps. Techniques and tools covered will enable students to use the powerful features of Objective-C, Cocoa Touch, and the various iPhone SDK libraries and frameworks for app development. Presented as a combination of instructor-led presentations and hands-on exercises. Lab fee.

Typically offered: As Needed

IT-2105 Programming II (3 Credits)

Requisite(s): IT-1104

An introduction to object-oriented programming using C++ and/or Java. Topics include advanced features in structured programming using UNITS and an introduction to object-oriented programming (OOP) techniques. Lab fee.

Typically offered: All Sessions

IT-2110 COBOL Programming (3 Credits)

Requisite(s): IT-1001

An introduction to COBOL program design and development. Students will use a structured approach to the program development process involving the following series of steps: identification of the problem, analysis of the problem, identification of the algorithmic patterns, specification of the logical design solution using pseudo code or structure charts, creation of the source code, compilation and testing of the source code, and analysis of program output. This structured approach helps students to build multilingual programming and analysis capabilities. Students will use MicroFocus COBOL software to compile and execute their COBOL programs. Offered in Spring. Lab Fee.

Typically offered: All Sessions

IT-2201 Telecommunications and Networking (3 Credits)**Requisite(s):** IT-1103

An introduction to data communications hardware and software and their applications in computer networks. Topics include communication system components, communication sharing, packet switching, network control, common carrier issues, and local area vs. global area networks. Lab fee.

Typically offered: Fall Only**IT-2220 Robotics (3 Credits)****Requisite(s):** IT-1001

The objective of this course is to use a hands-on approach to introduce the basic concepts in robotics, focusing on mobile robots and illustrations of current state-of-the-art research and applications. Course information will be tied to lab experiments; students will work in teams to build and test increasingly more complex LEGO Mindstorms-based mobile robots. Lab fee.

Typically offered: As Needed**IT-2270 Computer Forensics (3 Credits)****Requisite(s):** IT-1103

Computer forensics—the science of obtaining and analyzing evidence from computers—is the name for a newly emerging field of study and practice that incorporates many areas of expertise. Some of these areas have been called network security, intrusion detection, incident response, infrastructure protection, disaster recovery, continuity planning, software engineering, cyber security, and computer crime investigation. Lab fee.

Typically offered: Fall Only**IT-2410 Web Design (3 Credits)****Requisite(s):** IT-1102 is a recommended pre-requisite for IT majors.,IT-1102 is not required for COM majors.

The World Wide Web has increased from a limited number of networked computers to more than 20 million computers worldwide. With the increase of network computing comes the increase in demand for Web page design. This course deals with the design principles of building and maintaining Web pages. Topics include site design using Adobe Dreamweaver CS5 with an introduction to CSS, Adobe Fireworks, Adobe Photoshop CS5 and Adobe Flash CS5. Lab fee.

Typically offered: All Sessions**IT-2420 Multimedia Design and Technologies (3 Credits)****Requisite(s):** IT-1001

This course develops core concepts and practical skills in multimedia design and production. Practical experience is offered in project planning and development, including design, production, prototyping, testing, and publishing. This course provides effective techniques for preparing graphics, animation, text, digital audio, and video for multimedia applications including CD-ROM titles, Web sites, marketing presentations, and interactive kiosks. Among the key software tools explored are Director, PhotoShop, Illustrator, Premiere, After Effects, Dreamweaver, and Flash. Web design and development issues include Dynamic HTML, Shockwave, streaming video, and video and QuickTime VR. Also examined are systems configuration and hardware requirements of the multi-platform digital production studio. Lab fee.

Typically offered: Spring Only**IT-2430 Computers in Education (3 Credits)****Requisite(s):** IT-1001

A course that focuses on the use of computers in an educational environment. Encourages the implementation of computers and computer-assisted learning in a classroom. Provides the tools to evaluate educational software. The course covers the latest techniques in instructional technology as well as the role of on-line methodologies. Lab fee.

Typically offered: As Needed**IT-2440 Scripting Languages (3 Credits)****Requisite(s):** IT-2410

An introduction to scripting languages. This course provides students with an overview of the scripting languages used in today's web-based environments. Students will learn the history of scripting languages, explore scripting languages such as HTML, XML, JavaScript, VBScript, PERL, PHP, Python, and Ruby, learn the differences between each language, and how to select the appropriate language for a task. Lab fee.

Typically offered: As Needed**IT-2445 Digital Video (3 Credits)****Requisite(s):** IT-1102

This course explores non-linear editing techniques for professional video production, incorporating real-time professional video and audio editing tools. Principles of video basics, digital video technology, the development and creative process, editing, production, effects and presentation are stressed. Integrating instructor led demonstrations and hands-on projects with Adobe Premiere CS 5.5 students gain precise control over the production process to create professional quality video.

Typically offered: All Sessions**IT-2450 Digital Imaging (3 Credits)****Requisite(s):** IT-1102

This course focuses on the interface, the tools, the features, tricks, and tips FOR DIGITAL imaging utilizing Photoshop CS, the industry standard for desktop publishing, multimedia design and web design. This course combines concepts of digital imaging as well as instructor-led demonstrations and hands-on lab exercises with Photoshop CS. Lab fee.

Typically offered: All Sessions**IT-2510 Database Management Systems (3 Credits)****Requisite(s):** IT-1103

Design, structure, and applications of database systems. Deals with problems associated with management of information. The course considers concepts such as logical and physical database organization, data security, and database life cycle. Stresses application development through fourth-generation programming techniques. The course emphasizes basic knowledge in data structures, normalization of data, modeling, and database methods. Lab fee.

Typically offered: Fall Only**IT-2520 Advanced Querying and Report Writing (3 Credits)****Requisite(s):** IT-2510

An advanced database querying and report writing course examining advanced features of structured query language (SQL) used to retrieve data from databases. Students will learn how to present data in easy-to-read simple and complex reporting formats that satisfy business needs. Lab fee.

Typically offered: Fall Only

IT-2550 Medical Informatics (3 Credits)**Requisite(s):** IT-1001

Medical informatics studies the organization of medical information, the effective management of information using computer technology, and the impact of such technology on medical research, education, and patient care. The field explores techniques for assessing current information practices, determining the information needs of health care providers and patients, developing interventions using computer technology, and evaluating the impact of those interventions. This research seeks to optimize the use of information in order to improve the quality of health care, reduce costs, provide better education for providers and patients, and to conduct medical research more effectively.

Typically offered: Spring Only**IT-2620 Business Applications (3 Credits)****Requisite(s):** IT-1001

The use of computers and business and financial software packages. The course includes familiarization with budgeting. Additional topics deal with advanced techniques in Excel and basics of Visual Basic. Lab fee.

Typically offered: Spring Only**IT-2690 Computer Support Systems (3 Credits)****Requisite(s):** IT-1103

The essential skills for the support and management of end-user computing, including applications development, end-user troubleshooting, and formulating of end-user management strategies. Stragey implementation using policies, procedures, standards, and guidelines are provided. Lab fee.

Typically offered: As Needed**IT-3101 Information Technology Law and Ethics (3 Credits)****Requisite(s):** IT-1103

The overnight entry of companies such as Amazon and Napster into mature and established industries has served as a wake-up call to business leaders everywhere to protect their innovations. Included in these new commercial developments are challenges to the fundamentals of intellectual property law, including patent, trademark, copyright, and trade secret laws. This course provides an understanding of the fundamentals of intellectual property law and how it is being used and adapted by businesses to protect their intellectual capital in cyberspace. Also included are discussions about patenting new methods of doing business; the interplay between domain names and trademarks; cyberspace copyright issues including text and graphical infringement, software, and web-site registration; and the impact of technological developments on trade secret agreements.

Typically offered: As Needed**IT-3220 Computer and Network Security (3 Credits)****Requisite(s):** IT-1103

Students examine the management of information security and data processing facilities including thefts of data, unauthorized uses of information technology, computer viruses, and methods of protecting information with an emphasis on networked computers. The course covers information technology laws, issues of privacy, and security planning. Lab fee.

Typically offered: Fall Only**IT-3240 Linux (3 Credits)****Requisite(s):** IT-1103

This course is intended to give students an opportunity to learn the basics of the Linux operating system. Topics include the history of Linux and the Open Source movement, intellectual property issues, obtaining and installing Linux and Open Office, file system structure, text editing, basic commands, basic scripting, job scheduling, and installing applications. Lab fee.

Typically offered: As Needed**IT-3301 Project Management (3 Credits)****Requisite(s):** IT-1001

This course is an introduction to project management. Topics include overview and concepts of project management and strategies; planning successful projects (defining, specifying, delivery of scheduling, budgeting); implementing (organizing the team, work assignments, team building, effective leadership); executing (performance measurement, maintaining the schedule, adjustments, corrections, record keeping, status reporting, communications); managing conflict; time management; performance measurement; contract documentation; data transfer; lessons learned. Lab fee.

Typically offered: Fall Only**IT-3310 Systems Analysis and Design (3 Credits)****Requisite(s):** IT-2510

Traditional analysis, design, and implementation of information systems through data flow analysis and the systems development life cycle approach. The fundamentals of systems analysis and how it is applied to the development of information systems in the business environment. Major topics include methods of systems investigation, feasibility study, input-output design, system documentation, communication, implementation of new systems. control, and security. Also treated are data structures, data definition, normalization of data, and the use of Computer-Aided Software Engineering (CASE) tools. Lab fee.

Typically offered: Spring Only**IT-3313 Computer Support Systems (3 Credits)****Requisite(s):** IT-1103

The essential skills for the support and management of end-user computing, including applications development, end-user troubleshooting, and formulating of end-user management strategies. Stragey implementation using policies, procedures, standards, and guidelines are provided. Lab fee.

Typically offered: As Needed**IT-3320 Advanced Management Information Systems (3 Credits)****Requisite(s):** IT-1103

An advanced course that provides a thorough and comprehensive analysis of systems theory concepts, information systems (IS) terminology, and concepts in the context of the management of the business organization. Emphasis is placed on IS topics relevant to students seeking to become managers or IS professionals. Existing modeling, planning, design, implementation, evaluation, integration, management, and control approaches for various types of IS systems are presented. Theory and practical application considerations are highlighted in each topic. Emerging topics and technologies are also explored. Lab fee.

Typically offered: Spring Only

IT-3397 Mentored Internship for Project Mgt. (3 Credits)**Requisite(s):** IT-3301

This course will provide students with an opportunity to see and participate in projects at an on-site internship and continue to learn the Project Management Body of Knowledge (PMBOK) project concepts during weekly mentoring sessions with faculty. Students will work on-site at an internship for no less than 10/hours per week. Faculty will work closely with students to develop an understanding of how project management theory is applied in a work-based environment. Student activities on-site will vary depending on the project. They will participate, at some level, with the project team and document the project from initiation through the completion of the internship. Lab Fee.

Typically offered: Fall Only**IT-3400 HTML & CSS for Web Design (3 Credits)****Requisite(s):** IT-2410

This course will provide students with state of the art approaches to website design. The students will learn to create an attractive and organized website using HTML and CSS with emphasis on page layout consistency and navigation. This course combines concepts of web design as well as instructor-led demonstrations and hands-on Lab Exercises that will allow students to use CSS to control the look and placement of HTML elements.

Typically offered: All Sessions**IT-3410 E-Commerce Integration (3 Credits)****Requisite(s):** IT-1001

This course integrates the primary business functions of marketing and finance with the advances made through computers and information technology. Topics include Internet marketing, business-to-business commerce, business-to-consumer commerce, distribution, and tracking channels. Students will prepare an e-commerce business plan that will include pro-forma financial statements.

Typically offered: All Sessions**IT-3420 Knowledge Systems and Data Mining (3 Credits)****Requisite(s):** IT-2510

Intelligence as a basic component of information systems is rapidly becoming a necessity. Rapid advancements in the nature of commerce, in particular the emergence of the Internet as an exchange and delivery channel, have led to an explosion in the quality and quantity of data. This course covers the process of converting raw data into the knowledge that is required to support decision-making by automating the process of knowledge discovery. The course also explores how data mining increases productivity. Lab fee.

Typically offered: Spring Only**IT-3510 Data Structures (3 Credits)****Requisite(s):** IT-2105

Data representation and manipulation concepts, processing of linearly-linked lists and multi-linked data structures, operations with tree structures, sorting and searching techniques, data management systems, and programs using different structure and algorithms are studied. Lab fee.

Typically offered: Spring Only**IT-3520 Advanced Database Management (3 Credits)****Requisite(s):** IT-2510

An introduction to advanced database management systems concepts and practices. This course examines object-oriented database concepts, design, implementation, and management. Students will learn to use data modeling tools such as UML and extended ER modeling. In addition, students will examine current database management environments such as centralized and distributed databases, data warehousing, data marts, data mining, database security, client/server and Internet database environments, mobile databases, and emerging technology. Lab fee.

Typically offered: Spring Only**IT-3540 Computer Architecture and Organization (3 Credits)****Requisite(s):** IT-2105

A top-down approach to computer design. The fundamentals of computer architecture including an introduction assembly line language of programming and machine language set design. Major topics include computer organization; logical modules, CPU, memory, and I/O units; instruction cycles and the control unit; hardwiring and microprogramming; data path implementation of the CPU. Also treated are memory structure and timing, I/O interface, interrupts, programmed I/O, and DMA. Lab fee.

Typically offered: Fall Only**IT-3610 Decision Support Systems (3 Credits)****Requisite(s):** IT-2510

Introduction to the use of information and mathematical modeling to support managerial analysis and decision making. Develops the skills required to solve problems using computer-based modeling in selected disciplines such as marketing or finance. Topics may include the examination of components of a decision-support system, simulation model development, group decision-making technology, and intelligent support systems. Lab fee.

Typically offered: As Needed**IT-3620 Business Applications (3 Credits)****Requisite(s):** IT-1001

The use of computers and business and financial software packages. The course includes familiarization with budgeting. Additional topics deal with advanced techniques in Excel and basics of Visual Basic. Lab fee.

Typically offered: Spring Only**IT-3680 Operating Systems (3 Credits)****Requisite(s):** IT-2105

Overview of user interface. Topics include process structure, creation and context switching, system calls, process cooperation, memory management, virtual memory, I/O management, interrupt handling, file structure, directories, fault-tolerance. Students design projects involving construction of portions of the operating system. Lab fee.

Typically offered: Spring Only**IT-4000 Special Topics: Graphic Design (3 Credits)**

Information technology is a rapidly changing discipline. The focus of this course is to address the need to cover different topics that are on the cutting edge of IT. Topics vary from semester to semester. Lab fee.

Typically offered: As Needed

IT-4001 Splc Topics: Photoshop Web and Video (3 Credits)**Requisite(s):** IT-2420 and IT-2410;

The focus of this course is how to use Adobe Photoshop CS5 to enhance web and video images more effectively. This course is a combination of instructor-led demonstration and hands-on practice. It is ideal for students who want to increase their understanding of Photoshop CS5 and web development. The course will touch upon how to integrate these skills with software such as: Fireworks, Dreamweaver and Flash. Lab fee.

Typically offered: As Needed**IT-4002 Special Topic: Web Site Development With Django (3 Credits)****Requisite(s):** IT-1103

This course will help a student develop a web site from scratch using Django. Django is a Python based web site development environment which has been used to fuel sites like the edX platform, Instagram, Pinterest, the Washington Post, the New York Times and NASA. This course is intended for first time web site developers though a basic understanding of web architecture is helpful. Lab fee.

Typically offered: As Needed**IT-4003 Special Topic: Web Project Management Using an Agile Approach (3 Credits)****Requisite(s):** IT-1103

This course will introduce agile project management concepts with a focus on web technology projects. We will cover the history of agile development, its roots in Lean manufacturing, and specific methodologies like SCRUM. We will modify to deal with Web site development issues (User Experience design, quality assurance, continuous integration). Prerequisite: IT1103 Lab fee.

Typically offered: As Needed**IT-4004 Special Topic: Programming With Swift Using an Agile Approach (3 Credits)****Requisite(s):** IT-1001

This course introduces fundamental structured and object-oriented programming concepts and techniques, using Swift, and is intended for all who plan to use computer programming in their studies and careers. Topics covered include variables, arithmetic operators, control structures, arrays, functions, dynamic memory allocation, files, class usage and class writing. Program design and testing are covered as well as more advanced object-oriented concepts including inheritance. Prerequisite: IT 1001 or equivalent

Typically offered: As Needed**IT-4005 Special Topic: Intro to Adobe Illustrato Using an Agile Approach (3 Credits)****Requisite(s):** IT-1102

This course offers a practical overview of Adobe Illustrator's interface, workspace, tools, and techniques. Adobe Illustrator is a powerful tool that allows you to create graphics. You will practice building with shapes, colors, gradients, and lines while integrating good use of typography. Prerequisite: IT 1102

Typically offered: As Needed**IT-4007 Special Topic: Programming With Python Workshop in Financial Markets (3 Credits)****Requisite(s):** IT-1103, Take MAT-1104 or higher

This course introduces programming in a high-level language using Python. The course emphasizes problem-solving and object-oriented programming techniques. Topics include assignment, input/output, selection, looping, scalar and array data structures, string and numeric data and modular development.

Typically offered: Fall and Spring**IT-4010 Special Topics: Visual Basic (3 Credits)**

Information technology is a rapidly changing discipline. The focus of this course is to address the need to cover different topics that are on the cutting edge of IT. Topics vary from semester to semester. Basic computer skills using Microsoft products and basic programming knowledge desired but not required. Lab fee.

Typically offered: As Needed**IT-4015 Special Topics: Java (3 Credits)**

Information technology is a rapidly changing discipline. The focus of this course is to address the need to cover different topics that are on the cutting edge of IT. Topics vary from semester to semester. Lab fee.

Typically offered: As Needed**IT-4020 Special Topics: 3-D Drawing (3 Credits)**

Information technology is a rapidly changing discipline. The focus of this course is to address the need to cover different topics that are on the cutting edge of IT. Topics vary from semester to semester. Lab fee.

Typically offered: As Needed**IT-4030 Special Tpc: After Effect 4-D (3 Credits)**

Information technology is a rapidly changing discipline. The focus of this course is to address the need to cover different topics that are on the cutting edge of IT. Topics vary from semester to semester. Lab fee.

Typically offered: As Needed**IT-4040 Special Tpc: Game Programming w Visual Basic (3 Credits)**

Information technology is a rapidly changing discipline. The focus of this course is to address the need to cover different topics that are on the cutting edge of IT. Topics vary from semester to semester. Lab fee.

Typically offered: As Needed**IT-4041 Special Topic: Python Programming (3 Credits)****Requisite(s):** IT-1103

A gentle introduction to Python using a gaming project as the basis for learning the language. The course is intended for both introductory programming and those with some prior programming experience. Lab fee.

Typically offered: As Needed**IT-4042 Special Topic: Programming for Business Workshop in Financial Markets (3 Credits)****Requisite(s):** IT-1103

This course introduces students to the foundations of programming in business. It involves both a theoretical component (e.g. learning about basic programming concepts like loops, arrays and functions) as well as a practical component (e.g. implementing algorithms on a computer). The course also provides the initial steps towards learning the principles of object-oriented design and programming through the use of Python programming language.

Typically offered: Fall and Spring**IT-4050 Special Topics: Dream Weaver (3 Credits)**

Information technology is a rapidly changing discipline. The focus of this course is to address the need to cover different topics that are on the cutting edge of IT. Topics vary from semester to semester. Lab fee.

Typically offered: As Needed

IT-4060 Topics: Intro to Prog Using Mathematica (3 Credits)**Requisite(s):** Take IT-1001

Mathematica is software used to perform both simple and complicated mathematical calculations which requires no previous knowledge of or training in computer programming. This course is an introduction to Mathematica and will cover such areas as graphing in two and three dimensions in addition to the language of the software itself. Because it can be used for a variety of computational techniques it can be useful for students in mathematics, the sciences, economics, finance, accounting and information technology. Lab fee.

Typically offered: As Needed**IT-4070 Special Topics in It: Project Management For Entrepreneurs (3 Credits)****Requisite(s):** IT-1001

Planning, building and growing your own business requires an interdisciplinary skill set. This course will help students to develop the skills they need to see their business plan become a reality using the project management core principles. Communication, risk management, leadership, resource and time management are all part of the applied learning skills that will be taught in this course. Students will actively participate in developing their own project plan to create and develop their own business including how to find funding, develop new products, and developing marketing plans.

Typically offered: As Needed**IT-4100 Special Topics: Photoshop (3 Credits)**

Information technology is a rapidly changing discipline. The focus of this course is to address the need to cover different topics that are on the cutting edge of IT. Topics vary from semester to semester. Lab fee.

Typically offered: As Needed**IT-4110 Special Topics: Advanced Excel (3 Credits)**

Information technology is a rapidly changing discipline. The focus of this course is to address the need to cover different topics that are on the cutting edge of IT. Topics vary from semester to semester. Lab fee.

Typically offered: As Needed**IT-4120 Special Topics: Advanced Photoshop (3 Credits)**

Information technology is a rapidly changing discipline. The focus of this course is to address the need to cover different topics that are on the cutting edge of IT. Topics vary from semester to semester. Lab fee.

Typically offered: As Needed**IT-4130 Spcl Tpcs: Intensive Adobe Illustrator (3 Credits)**

Information technology is a rapidly changing discipline. The focus of this course is to address the need to cover different topics that are on the cutting edge of IT. Topics vary from semester to semester. Lab fee.

Typically offered: As Needed**IT-4140 Special Topics: Intensive Flash (3 Credits)**

Information technology is a rapidly changing discipline. The focus of this course is to address the need to cover different topics that are on the cutting edge of IT. Topics vary from semester to semester. Lab fee.

Typically offered: As Needed**IT-4150 Sp Tpcs: Intensive Desktop Publishing (3 Credits)**

Information technology is a rapidly changing discipline. The focus of this course is to address the need to cover different topics that are on the cutting edge of IT. Topics vary from semester to semester. Lab fee.

Typically offered: As Needed**IT-4160 Special Topics: Advanced Access (3 Credits)**

Information technology is a rapidly changing discipline. The focus of this course is to address the need to cover different topics that are on the cutting edge of IT. Topics vary from semester to semester. Lab fee.

Typically offered: As Needed**IT-4990 Internship in Information Technology (1-3 Credits)**

Supervised work experience in various fields of IT. Requires the submission of a written report. Number of credits awarded is dependent on number of hours worked during the semester, with a maximum of 3 credits in a semester. Students are limited to a total of 6 internship credits. Students find internships through their own initiative, the Career Development Office, and occasionally the Management & IT Department.

Typically offered: On Demand**IT-4995 Independent Study in Information Technology (1-3 Credits)**

Individual research and study with the approval of the Management & IT Department. If qualified, an independent study can be used to substitute for an elective in IT. Projects must be scheduled for completion within the semester. Prerequisite: prior application and approval of Chairperson and faculty mentor required.

Typically offered: On Demand**IT-4998 Capstone Project (4 Credits)****Requisite(s):** Senior standing, IT-2201, IT-3310, IT-3101, ENT-1001

This course provides students with an opportunity to apply their theoretical knowledge to a practical problem in the area of information systems. This project is a general investigation and report within the subject area of information systems. The student group can develop a mock business demonstrating how information technology may be integrated into the operations of that company. Students will be applying the entrepreneurial mindset and explore the commercialization of their project. Students work under the supervision of the course director.

Typically offered: Fall Only**IT-6001 Information Systems for Managers (3 Credits)**

Graduate students only. This course will provide an overview of information systems concepts. Students will explore how information system can give organizations a competitive advantage while providing managers with tools for planning, decision making, and effective controls. Students will explore the value of information systems for transforming business operations through review and analysis of literature and case studies.

Typically offered: All Sessions**IT-6002 Systems Analysis and Design (3 Credits)****Requisite(s):** IT-6001

Graduate students only. This course introduces the principles of systems analysis and design. Students explore the fundamental knowledge of how computer systems are analyzed and designed through different methodologies. Many concepts and applications are taught with practical examples. The key topics of this course include fundamentals of systems analysis and design, different phases of analysis and design, analysis requirements, analysis process, design essentials, quality assurance, and implementation. Students will complete practical lab assignments as well as quizzes and research papers.

Typically offered: All Sessions

IT-6003 Computer Networks and Security (3 Credits)**Requisite(s):** IT-6001

Graduate students only. This course introduces the principles and applications of computer networks and security. Students explore the fundamental knowledge of computer networks and how cyber security is essential to protect computer networks. Many concepts and applications are taught with practical examples. The key topics of this course include Introduction to Computer Networks, Applications, Link and Physical Layers, Network Layers, Transport Layer, Introduction to Cyber Security, and Cyber Threats and Defenses. Students will complete practical lab assignments as well as quizzes and research papers.

Typically offered: All Sessions**IT-6004 Database Management (3 Credits)****Requisite(s):** IT-6001

Graduate students only. This course focuses on the design, implementation, and management of databases. Topics include strategic database planning, entity-relationship modeling, theory of the relational model, data normalization, distributed database processing, and the SQL language. Emphasizes database support for global business operations and explores ethical issues and concerns relating to modern database and data warehousing techniques. Students will complete a number of practical lab assignments as well as quizzes and research papers.

Typically offered: All Sessions**IT-6005 Operating Systems (3 Credits)****Requisite(s):** IT-6001

Graduate students only. This course will cover topics from the broad field of operating systems, including basic operating system structure, file systems and storage servers, memory management techniques, process scheduling and resource management, threads, distributed and peer-to-peer systems, and security. The courses will examine influential historical systems and important current efforts, extracting lessons both on how to build systems as well as how to evaluate operating systems. Students will complete a number of practical lab assignments as well as quizzes and research papers.

Typically offered: All Sessions