



COLLEGE OF INFORMATION TECHNOLOGY

Mission Statement

The mission of the College of Information Technology is to provide the latest technological services and breakthroughs to our students through dynamic curricula and courses. The College will provide an essential tool in planning for the future and meeting the demands of the job market while utilizing constantly updated curriculum. Use of universal technology language and courses that include both theoretical and practical aspects will ensure that graduates are well prepared to meet future challenges.

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May include but not limited to available courses, tuition rates, and University policy.



DEGREES OFFERED

- Bachelor of Science in Information Technology (BSIT)
- Master of Science in Information Technology (MSIT)

INTRODUCTION

In response to the overwhelming demand for Information Technology (IT) professionals throughout the world, the American Global University has recently revised its programs to help interested people develop the theoretical foundation and applied skills needed to pursue careers as IT professionals in the computing, software, manufacturing, service, public and other business sectors. These programs broaden a student's appreciation and understanding of the marketplace, and develop valuable technical skills needed for the next step in their professional advancement—increasing their earning power, career potential and job security.

It is the overall philosophy and the general approach of the college to offer a curriculum that is focused not only on theories but also on the practical aspects of the technology itself. The College of Information Technology faculty includes highly qualified instructors from across the world. Because we are not limited to those instructors residing in any one geographical area, we can draw from the most qualified in any given field or subject.

UNDERGRADUATE GENERAL EDUCATION COURSE REQUIREMENTS

The general education program is designed to ensure that all American Global University graduates have a basic understanding of certain essential areas of knowledge. The general education program sets minimal requirements. Most departments of major study require additional courses in these areas, which are stated under the individual major degree requirements.

Core Courses: (45 Credit Hours)

Dept. #	Title	Credit (SU)
ENG 100	English Grammar	3
ENG 101	English Composition I	3
MAT 101	General Mathematics	3
COM 105	Introduction to Computer Science	3
SOS 106	Introduction to Sociology	3
SOS 108	Introduction to History	3
MAT 111	College Algebra (Algebra I)	3
ENG 200	Basic Speech	3
ENG 201	English Composition II	3

SOS 109	Introduction to Geography	3
SOS 110	Introduction to Art	3
SOS 112	Religions of the World	3
SOS 206	American Government	3
SOS 208	Introduction to US History	3
PSY 400	Introduction to Psychology	3

Electives: (15 Credit Hours)

Dept. #	Title	Credit (SU)
CHM 101	General College Chemistry I	3
MAT 112	Pre-Calculus (Algebra II)	3
MAT 170	Introduction to Statistics	3
ACT 201	Accounting Fundamentals	3
SOS 201	Introduction to Social Sciences	3
CHM 201	General College Chemistry II	3
SOS 203	Introduction to Philosophy	3
SOS 205	Introduction to Political Science	3
ECO 206	Introduction to Economics	3
MAT 241	Calculus I (for Science & Engineering)*	3
MAT 242	Calculus II (for Science & Engineering)*	3
MAT 253	Calculus III (for Science & Engineering)*	3
SCI 201	Physics I (Mechanics of Motion)*	3
SCI 202	Physics II (Electricity/Magnetism)*	3

***Prerequisites for a BS degree in Information Technology.**

DEGREES OFFERED

Bachelor of Science in Information Technology

The Bachelor of Science degree in Information Technology (BSIT) prepares students for careers in the fast-growing field of planning, implementing, maintaining, and managing the information infrastructure of an organization. The BSIT degree prepares graduates for careers such as: Web designing, system engineering, network analysis, and systems administration.

Master of Science in Information Technology

The Master of Science in Information Technology (MSIT) program is designed to prepare students for professional positions and advanced study in information technology with the competencies, skills, and attitudes necessary for success. Graduates will be capable of holding technical or scientific positions in computer related industries, businesses, government agencies, education, and interdisciplinary applications as well as being prepared for Ph.D. studies in information technology related disciplines of computer science.

The College of Information Technology currently offers Master's Degree programs in four different areas of specialty: Multimedia, E-Commerce, System Administration and Web Engineering.

The University reserves the right to modify curriculum associated with each programs and the required course of study. All coursework must be satisfactorily completed. Courses in which a grade "F" is earned must be repeated.

Bachelor of Science in Information Technology (BSIT)

I. PREREQUISITES: High school diploma or equivalent and demonstration of the ability to succeed in undergraduate study.

II. PROGRAM REQUIREMENTS: The total semester units required for graduation are as follows: unit requirement for general education is dependent upon the past experience of the applicant; 72 semester units are core courses and electives. The student may choose to pursue an area of concentration where the electives are predetermined. Students are required to satisfy the general education requirements as outlined in the University catalog. A minimum of 30 credits must be earned at AGU.

The Bachelor of Science in Information Technology (BSIT) curriculum is made of two course sequences: General Education core courses and electives and BSIT core courses and electives:

BSIT CORE COURSES AND ELECTIVES

Information Technology Core Course Sequence

The core courses provide fundamental knowledge and practice in the information technology system and software development. Students must have 30 semester unit credits to enroll in the Core. As an alternative, enrollment into the Core also extends to students who have completed 45 semester unit credits of which 21 credits were earned at the American Global University.

BSIT CORE COURSE SEQUENCE (54 Credits)

Dept. #	Title	Credit (SU)
EIT 225	Introduction to Networking	3
EIT 235	Fundamentals of Programming	3
EIT 290	Introduction to Information Technology	3
EIT 301	Structured Programming & Algorithms	3
EIT 311	Discrete Data Structures	3
EIT 335	Introduction to Software Engineering	3
EIT 357	Basic Organization of Computer Systems	3
EIT 361	Introduction to C Programming Language	3
EIT 371	Object Oriented Programming	3
EIT 390	Fundamentals of Internet	3
EIT 421	Data Communications	3
EIT 430	Introduction to Database systems	3
EIT 452	Operating Systems	3
EIT 459	Applied System Programming	3
EIT 461	C++ Programming Language	3
EIT 471	Java Programming Language	3
EIT 473	Programming in Visual Basic	3

EIT 491 Special Topics in Information Technology 3

BSIT ELECTIVES (12 credits)

Dept. #	Title	Credit (SU)
EIT 381	Programming & Multimedia on WWW	3
EIT 401	Digital Media for Multimedia Applications	3
EIT 402	Introduction to Digital Signal Processing	3
EIT 412	Human Computer Interface Design	3
EIT 415	Computer Graphics	3
EIT 420	Introduction to Internet Protocols	3
EIT 425	Computer Networks	3
EIT 457	Computer System Organization	3
EIT 481	Internet Programming Languages	3

Master of Science in Information Technology (MSIT)

I. PREREQUISITES:

a). A bachelor's degree in Information Technology or a related field from an accredited or acceptable institution of higher education.

b). A grade point average of at least 2.75 (A=4.00) for the final 50 semester units of undergraduate study.

c). Demonstration of the ability to succeed in study at the graduate level.

II. PROGRAM REQUIREMENTS:

a). The master's degree program requires 36 semester units above the bachelor's degree level.

b). A minimum of 21 semester units must be completed at American Global University.

c). Thesis (optional). Students may choose the option of master's degree with thesis, in which case they will be assigned an advisor and they will work on a project under his or her supervision until they submit a final thesis approved by their advisor to the department.

The College of Information Technology currently offers Master's Degree programs in four different areas of specialty. The Specialty tracks of the MSIT program are extensions in breadth and depth of the core courses and enable the student to choose one or more area(s) of expertise in the field of IT.

The Master's of Science in Information Technology (MSIT) curriculum is made of two course sequences:

1). The Core Course Sequence that included 15 units of mandatory courses and 6 units of electives and is common for all four MSIT programs,

2). The Specialty Track Course Sequence that includes 15 units of predetermined courses.

Information Technology Core Course Sequence

The core courses provide advanced knowledge in system and software development in information technology. Coursework and research are available in areas such as software engineering and application development, system integration, networking, Internet technology, and computer system architecture.

MSIT CORE COURSE SEQUENCE (15 credits)

Dept. #	Title	Credit (SU)
EIT 525	Computer Communications	3
EIT 530	Relational Database Design	3
EIT 535	Client/server Application development	3
EIT 540	Advanced Programming in Visual Basic	3
EIT 552	Advanced Operating Systems	3

MSIT ELECTIVES (6 credits)

EIT 500	Advanced Software Engineering Project	3
EIT 515	Embedded Systems Programming	3
EIT 591	Advanced Topics in Information Tech	3
EIT 598	Thesis	6

MSIT - MULTIMEDIA TRACK COURSE SEQUENCE (15 credits)

Dept. #	Title	Credit (SU)
EIT 545	Programming in Visual C++	3
EIT 562	Advanced Digital Signal Processing	3
EIT 565	Interactive Media	3
EIT 567	Multimedia Software Design	3
EIT 581	Internet Programming Languages	3

MSIT- E-COMMERCE TRACK COURSE SEQUENCE (15 credits)

Dept. #	Title	Credit (SU)
EIT 571	Principles of Network Security	3
EIT 573	E-Commerce Architecture on the Internet	3
EIT 574	Adv Strategies for Commercial Web Sites	3
EIT 575	Client/server Application development	3
EIT 578	Database Access from Web Applications	3

SYSTEM ADMINISTRATION TRACK COURSE SEQUENCE (15 credits)

Dept. #	Title	Credit (SU)
EIT 571	Principles of Network Security	3
EIT 572	Firewall & Access Controls	3
EIT 582	System and Network administration	3
EIT 583	Strategic Planning for MIS	3
EIT 585	TCP/IP Protocol Architecture	3

MSIT – WEB ENGINEERING TRACK COURSE SEQUENCE (15 credits)

Dept. #	Title	Credit (SU)
EIT 546	Advance Java	3
EIT 575	Client/server Application development	3
EIT 581	Internet Programming Languages	3
EIT 584	Management of WWW Servers	3
EIT 585	TCP/IP Protocol Architecture	3

COURSE DESCRIPTIONS

GENERAL EDUCATION

ACT 201 Accounting Fundamentals 3 Credit hours
Theory and application of accounting principles for recording, summarizing, and reporting business transactions designed mostly for external uses. It includes valuation of asset items and handling liability and capital accounts of the balance sheet, as well as, revenue and expense recognition in preparation of the income statement. The emphasis in this course is on the financial aspect of accounting. (Prerequisite: General Mathematics or approval of academic advisor.)

CHM 101 General College Chemistry I 3 Credit hours
This course presents an intensive technical program in general and inorganic chemistry for those in various professional curricula demanding competence in utilization of basic chemical principles and information. Emphasized are the relationships between structure and properties of matter. Chemical principles are presented both qualitatively and quantitatively.

CHM 201 General College Chemistry II 3 Credit hours
This course presents kinetic theory and thermodynamics of gas phase, thermo-chemistry, molecular interactions in liquids and solids, acid-base and solubility equilibria, free energy and reactivity. (Four hours of video lab is a requirement.)

COM 105 Introduction to Computer Science 3 Credit hours
This course familiarizes the student with foundations of algorithmic problem solving, problem specification, program design, and subsequent implementation using a high-level, structured, modern programming language. Also presented are computer hardware and software (including user view of operating systems), history of computing, computers in society and ethics. The student is introduced to the basic components of programming languages, although a specific programming language (e.g. C++, Java, Modula 3) is used for program implementations.

ECO 206 Introduction to Economics 3 Credit hours
This course provides an introduction to the principles, tools and models governing economics analysis with an overview of micro and macroeconomics, emphasizing terminology and methods of micro and macroeconomics. Includes a study of contemporary economics issues and problems.

ENG 100 English Grammar 3 Credit hours
This course is intended to function as an introduction to college level composition. The course will emphasize composition, developing a personal style and gaining a

sense of purpose and audience. The student will demonstrate an understanding of the writing process through completion of business letters, resumes and a research paper.

ENG 101 English Composition I 3 Credit hours

The course is an introduction to the principles and methods of composition in the development of writing skills. Important components are reading skills, critical thinking, synthesis and the correct use of grammar and vocabulary.

ENG 200 Basic Speech 3 Credit hours

Designed as an introduction to the principles of speech and communication, the student will become familiar with the basic principles involved in speech writing and public speaking.

ENG 201 English Composition II 3 Credit hours

An analysis and application of methods of composition in the enhancement of writing skills.

MAT 101 General Mathematics 3 Credit hours

Set, system of numeration, problem solving, real number system, consumer mathematics, mathematical system, probability, and statistics.
Prerequisite: one year of high school algebra and geometry.

MAT 111 Algebra I 3 Credit hours

Cartesian coordinate, graphing, lines, parabolas, functions, inverse functions, rational functions, exponential and logarithmic functions, roots of polynomials, system of linear equations, matrices, determinants, counting rules, mathematical induction, binomials.

Prerequisite: three semesters of high school algebra and one year of high school geometry.

MAT 112 Pre-calculus (Algebra II) 3 Credit hours

Trigonometric functions and their applications, inverse trigonometric functions, trigonometric identities, trigonometric equations, law of sines and cosines, complex numbers and DeMoivre's formula.

Prerequisite: six semesters of high school algebra or college algebra.

MAT 155 Discrete Mathematics I 3 Credit hours

Topics include: mathematical logic and proof techniques, predicate calculus with applications in computer programming, Boolean algebra and computer hardware. Set theory, combinatorics, finite state machines, and complexity of algorithms.

MAT 170 Introduction to Statistics 3 Credit hours

The course will cover the following areas: percentiles, arithmetic mean, histograms, random numbers, normal curve, dichotomous curve, population, dispersion, correlation factor, error factor, standard deviation, regression, variance, covariance, chi-square tests, sequential analysis, binomial distribution, up and down method, discrete distribution.

MAT 241 Calculus I 3 Credit hours

Topics include: Calculus of functions of single variable; Limits and continuity; Differential and integral of polynomial; Rational, and trigonometric functions; Applications of derivatives; Definite integral and its application in calculation of area.

MAT 242 Calculus II 3 Credit hours

Prerequisite: MAT 241

Topic include: Transcendental functions and their derivative and integrals; Applications and different techniques of integration; Infinite series and sequences; Conic sections; Parameterized curves; Polar coordinates and graphs.

MAT 253 Calculus III 3 Credit hours

Prerequisite: MAT 242

Topics include: vectors and solid analytic geometry, vector valued functions; partial differentiation; gradients and directional derivatives; multiple integrals; integration in vector fields; path independence, potential functions, and conservative fields.

PSY 400 Introduction to Psychology 3 Credit hours

This course is designed to provide a basic framework for understanding fundamental theories regarding human behavior and psychology. The student is expected to gain an understanding and basic knowledge of the primary issues, concepts and tenets of human psychology and behavior in relation to consciousness, learning, cognition, memory, thinking, human development, abnormal behavior and cultural diversity.

SOS 106 Introduction to Sociology 3 Credit hours

This course is designed to familiarize the student with the science of evaluation, structure and functioning of human society, characteristics of social life and process of social interaction. Included are systematic studies of human institutions and social relationships as well as the principles underlying their function.

SOS 108 Introduction to History 3 Credit hours

This course is an introduction to the history of the modern world. Since no single memory or accounting can relay what has happened in the past, the student is asked to open his/her mind and explore the possibilities of what might have been.

SOS 109 Introduction to Geography 3 Credit hours

The regional geography of the world, population agglomerations, scale, culture, physical geography, site and situations, super nationalism, federations, irredentism, isolated states, geography of languages, nomadism, urban dominance, ecological trilogy, boundaries, feudalism, pluralism, physiological density measure, industrial locations, exchange economy, modernization, buffer states, heartland theory, developed vs. underdeveloped regions, Pleistocene cycles, regions of the world: Europe, North America, Central and South America, North Africa and Southeast Asia, Africa, India, China.

SOS 110 Introduction to Art 3 Credit hours

This course will concentrate on introducing the student to the art of the ages. In an attempt to provide insight to the layman, the course will view works of art in the context of time and circumstance. The course will explore personal taste as a part of art history and the continuous process in which established values are discarded and neglected ones are rediscovered.

SOS 203 Introduction to Philosophy 3 Credit hours
Philosophy is defined as the love and pursuit of wisdom by intellectual means. This course was designed to familiarize the student with the basic elements of ethics, social philosophy, political philosophy, philosophy of art, philosophy of religion, the theory of knowledge and metaphysics. The course will include the origin of Greek cosmology and philosophy and the beginning of systematic thought and scientific investigation concerning origin and nature of the material world, metaphysics and the theory of knowledge

SOS 205 Introduction to Political Science 3 Credit hours
This course will introduce the student to the basic ideologies of politics, political theories and structure.

SOS 206 American Government 3 Credit hours
This course is designed to familiarize the student with the leading areas of American political thought from the founding days of our country to the present. The course covers the route of American government and characteristics of American democracy and the American people. It also explains the major political philosophies, their political themes and questions of political theory. The course will also emphasize the role of the U.S. Constitution and offer a glimpse into human personality and the unique conditions that created such a strong desire for democracy.

SOS 208 Introduction to U.S. History 3 Credit hours
This course presents an introductory study of the history of the United States by focusing on the colonial origins, cultural heritages, political institutions, economic development and social interaction that created our contemporary society.

SOS 112 Religions of the World 3 Credit hours
This course is designed to familiarize the student with the movements and themes of the major religions of the world.

SOS 201 Introduction to Social Sciences 3 Credit hours
This course will attempt to develop an overall comprehensive understanding of human society and culture in all forms by emphasizing interdisciplinary themes in anthropology, history, economics, geography, psychology, sociology and political science.

BACHELOR'S COURSES

EIT 225 Introduction to Networking 3 Credit hours
Basic elements of computer networking; Teleprocessing and data communications; Cabling, network topologies and architecture; Mode of transmission, Error handling and

network protocols; Preliminary exposure to TCP/IP, the backbone of Internet.

EIT 235 Fundamentals of Programming 3 Credit hours
Introduction to the basics of programming languages; elementary building blocks of any programming language; syntax and semantics descriptions; language statement, assignment, arithmetic and control issues; input and output operations.

EIT 290 Introduction to Information Technology
3 Credit hours

Prerequisite: EIT 225
Introduction to the principles of computing systems; Media for data representation; Storage units; Central processing vs. networking; Impacts of information technology and computers in today's world; Privacy and security issues; Ethics; Establishment of computer communities.

EIT 301 Structured Programming & Algorithms
3 Credit hours

Prerequisite: EIT 235
Basics of computer algorithms and programming techniques; influence of data modeling and data structures in programming and their implementations; discussions of queues, lists, tree structures and stacks; sorting algorithms, data representations and static/dynamic memory allocation.

EIT 311 Discrete Data Structures 3 Credit hours
Prerequisite: MAT 155, EIT 301

Basic concepts in graph theory; Similarity graphs and pattern recognition; Parallel algorithms; Mesh model for parallel computing; Gray Codes; Trees; Breadth-first search; Depth-first search; Back tracking; Greedy algorithm; Binary trees; Huffman Codes.

EIT 335 Introduction to Software Engineering
3 Credit hours

Prerequisite: EIT 235
Software lifecycle models; Software project planning; Cost, schedule and resource planning; Requirement analysis; Preliminary specification; Design methodologies; Implementation; Integration; Testing; Maintenance; Ethical considerations.

EIT 357 Basic Organization of Computer Systems
3 Credit hours

Introduction to hardware organization and architecture of a computer system; Study of major components such as registers, processors and system level elements; Single processing vs. symmetrical and asymmetrical multi processing; basics of Massively Parallel Processing.

EIT 361 Introduction to C Programming Language
3 Credit hours

Prerequisite: EIT 301
Fundamentals of C programming language; Basics of a high level macro language; Power of C in manipulating low level elements; Introduction to pointers and linked data; Basics of data structures and their construction and destruction; Orphan data blocks and impact of lost pointers.

EIT 371 Object Oriented Programming 3 Credit hours

Prerequisite: EIT 361

Introduction to object oriented approach to problem solving; Basic concepts of object oriented solution; Single and multiple inheritance; Component re-usability and optimization of development processes; Data abstraction and data encapsulations.

EIT 381 Programming & Multimedia on WWW

3 Credit hours

HTML programming for creating home pages; Installation and modification of Web server; writing programs that offer enhanced services; manipulation of graphics, video and sound.

EIT 390 Fundamentals of Internet 3 credit hours

Prerequisite: EIT 380

History of Internet; Internet applications; Domain Name Systems (DNS); IP addressing and sub-net masking; Routing of information packets; Gateways, World Wide Web; Communications between diverse networking protocols.

EIT 401 Digital Media for Multimedia 3 Credit hours

Prerequisite: Junior standing

Digital audio and compression, Digital images and graphics, Video and animation; Data compression; Optical storage media; Multimedia networking; Multimedia operating systems and architecture; Multimedia authoring; Multimedia applications.

EIT 402 Digital Signal Processing 3 Credit hours

Prerequisite: Junior standing

Discrete time linear systems; Quantization; Sampling theory; Fourier transform; Z-transform; Discrete and Fast Fourier Transform; Discrete time filter design

EIT 412 Human Computer Interface Design

3 Credit hours

Prerequisite: Junior standing

Human factors: perceptual systems, cognitive systems, Ergonomics; Design principles: elegance and simplicity, scale contrast and proportion. Interface quality: learn ability, speed, and recoverability.

EIT 415 Computer Graphics 3 Credit hours

Prerequisite: EIT 461

Picture representation methods; Techniques for picture processing; Data structures and languages for computer graphics; Algorithms and techniques for geometric modeling; picture rendering and motion specification.

EIT 420 Introduction to Internet Protocols

3 Credit hours

Prerequisite: EIT 390

Basics of TCP/IP protocol as the backbone of Internet; the OSI model for 7 layers of communication; interfacing

between layers; connection based vs. connection-less communication; local area and wide area inter-networking.

EIT 421 Data Communication 3 Credit hours

Prerequisite: Junior standing

Network architectures; layered protocols; network service interface; local area networks; wide area networks; long haul networks; internal protocols; link protocols; higher level protocols; addressing; routing; flow control.

EIT 425 Computer Networks 3 Credit hours

Prerequisite: Junior standing

Voice, video, and data convergence; Concept of layered networks; Data communication systems; Link configurations; Point-to-point, Multipoint; Classification of networks; Switched vs. broadcast; LANs and WANs; PSTN; Wireless Cellular Networks; The Internet; Enterprise Networks;

EIT 430 Introduction to Database Systems 3 Credit hours

Prerequisite: EIT 361

File input/output techniques, basic methods for file organization, file managers, principles of databases, conceptual data models and query languages.

EIT 452 Operating Systems 3 Credit hours

Prerequisite: EIT 361

Components of a generic 32 bit operating system; Processes; Tasks scheduling; Priorities assignment; Process synchronization; Deadlocks; Memory management; Virtual memory; File systems; I/O systems; Secondary storage structure; Protection; Security.

EIT 457 Computer System Organization 3 Credit hours

Prerequisite: EIT 357

Register transfer level machine organization; CPU data-paths and control; Micro-programming; Timing; Simple arithmetic units; Basic I/O organization; design using register transfer languages; Multiprocessing, pipeline and vector processing, RISC computers.

EIT 459 Applied Systems Programming 3 Credit hours

Prerequisite: EIT 452

Basics of systems programming; Use of a low level language in designing, developing and implementing internal computing tasks; Number systems and data representation; Memory and data structures; Addressing formats and modes; Procedure calls; Fixed and floating point arithmetic; Interrupts and execution handlers.

EIT 461

C++ Programming Language 3 Credit hours

Prerequisite: EIT 371

Basic tools for Object Oriented Programming such as data abstraction, inheritance, polymorphism and generic programming; Object oriented paradigms for programming-in-the-large using C++; Development of Windows based application Visual C++.

EIT 471 Java Programming Language 3 Credit hours

Prerequisite: EIT 371

Object Oriented Programming principles and its usage in Java programming; Java applets vs. Java applications; development of a Graphical User Interface in Java.

EIT 473**Programming in Visual Basic** 3 Credit hours**Prerequisite: EIT 361**

Principles of VB programming, major components of the language and the development environment, applications of VB in software engineering and application programming.

EIT 491 Special Topics in Information Technology

3 Credit hours

Selected mutually by the student and his/her advisor. Will focus on student's main interest.

MASTER'S COURSES**EIT 500 Advanced Software Engineering Project**

3 Credit hours

Issues related to management and maintenance of software systems, short-term objectives and long-term goals, resources vs. time of development, applications life cycles and cost; Individual analysis, planning development and maintenance of a software product or development artifact

EIT 515 Embedded Systems Programming

3 Credit hours

Real-time embedded system design and implementation; Benefits of C in combination with object-oriented techniques in embedded programming; Useful objects and classes for micro-controllers.

EIT 525 Computer Communications 3 Credit hours

Protocols for communication in distributed computing systems: end-to-end and high level protocols; network based services; network interconnection; security, heterogeneity and implementation issues.

EIT 530 Relational Database Design 3 Credit hours

Advanced concept in the design of an RDBM, Normalization; Tables; Relations; Record vs. table locking; Indexing techniques; Query languages; Security and data access; Concurrency control and crash recovery techniques.

EIT 535 Client Server Application Development

3 Credit hours

Fundamentals of client/server environments, network structure, theoretic models and system architecture, Distributed Computing Environment, network software engineering and program development, centralized application execution vs. distributed, advantage and disadvantages of DCE; Windows NT; Components and administration tools available within Windows NT.

EIT 540 Advanced Programming in Visual Basic

3 Credit hours

Using Win32 API and Dynamic Link Libraries to create ActiveX controls and ActiveX documents; Manipulating

Microsoft Office applications from VB using automation; Constructing class objects as building blocks for Component Object Model (COM) servers.

EIT 545 Programming in Visual C++ 3 Credit hours

Principles of Visual C++ programming language; Major components of the language and development environment; Applications of C++ in software engineering and programs development, presentation of Microsoft Foundation Class and its usage.

EIT 546 Advanced Java

3 Credit hours

Java Virtual Machine; The Jasmin assembler; Java compilers; Java Native Interface; Genericity in Java; Multithreading in Java; Distributed processing; Java networking; Servlets; Remote Method Invocation.

EIT 552 Advanced Operation Systems 3 Credit hours

Advanced issues in computer organization, naming, kernel design, protection mechanisms and security policies, reliable computing, database OS, secure networks, systems specification, decentralized systems, real time systems; discussion of operating systems such as Windows NT, UNIX SVR4, and Solaris with an emphasis on internals and design issues.

EIT 562 Advanced Digital signal Processing

3 Credit hours

Digital filter design; Sampling Theorem; Aliasing; Image processing; Image enhancement; Edge detection; Texture analysis; Image filtering and restoration.

EIT 565 Interactive Media

3 Credit hours

Introduction to multimedia components; Multimedia systems; Streaming audio & video; Real audio & video server; 2D & 3D modeling and animation; multimedia authoring: storyboards, scripting, flowcharts, timelines; Human computer interface; HTML/DHTML; Web tools; Copyright issues; Emerging multimedia technologies.

EIT 567 Multimedia Software Design 3 Credit hours

Overall design: architecture, interface, navigation, scripting, accessibility; Artistic design: themes, coherence, formats, tools; Content design: writing tone, scripting, flow; Programming design; Budget constraints; Evaluation.

EIT 571 Principles of Network Security 3 Credit hours

The primary objective of this course is to provide students the fundamental technical background to understand the mechanisms that provide the basis for securing computer systems. The course focuses on basic terminology associated with secure computing; the technical mechanisms necessary to provide adequate control systems and a brief look at policies and practices. Students will also be exposed to the legal and sociological implications of protecting electronic information. Case study analysis of several popular operating systems, network environments and the available tools for maintaining and enhancing security are used to reinforce learning.

EIT 572 Firewall and Access Controls 3 Credit hours
Key network and security concepts, protocols, and standards; Introduction to firewalls; Firewall architecture and design; Firewall performance consideration, assessment, management and load balancing; Review of leading commercial firewall products.

EIT 573 E-Commerce Architectures on the Internet 3 Credit hours
Different architectures for electronic commerce on the Internet; Security and tuning tips for clients, application servers, databases, and mainframe gateways; Transaction servers, intelligent agents, publish/subscribe, commerce servers, workflow, messaging, clustering and content replication.

EIT 574 Strategies for Commercial Web Sites 3 Credit hours
E-Commerce and E-Business; Internet commerce basics: Markets and portals; Developing and deploying an Internet commerce strategy; Promoting and marketing your site; Career management.

EIT 578 Database Access from Web Applications 3 Credit hours
Technologies and tools used for creating interactive Web pages that access databases. CGI scripts, Template based approaches; Server side scripting; Server extensions; client side scripting; COM+; EJB.

EIT 581 Internet Programming Languages 3 Credit hours
Client side topics include: Hypertext Markup Language (HTML); Dynamic HTML (DHTML); Extensible Markup Language (XML); Internet scripting languages (JavaScript, Visual Basic Script); Java applets; Server Side topics include: Web servers; Application servers; Common Gateway Interface (CGI) concepts and languages.

EIT 582 System and Network administration 3 Credit hours
Understanding of client/server systems management; Network design and administration; Operating system configuration and application software interfaces. Windows 98, NT, and UNIX.

EIT 583 Strategic Planning for MIS 3 Credit hours
This course provides the principles for performing strategic business planning for information technology. A discussion of technology trends and their impact on organizations will focus on current trends. Topics will include business reengineering, client/server computing, downsizing, open systems, and hardware/software advances. Case studies will be used to provide the student with realistic experiences.

EIT 584 Management of WWW Servers 3 Credit hours
Basics of HTTP and HTML; Server hardware and software; Network communications requirements; UNIX servers, Apache, NCSA, and Netscape; Installation and

administration; Document directory organization; Forms, CGI scripts; Search engines and image mapping; Access control; Performance monitoring; Statistics and log analysis.

EIT 585 TCP/IP Protocol Architecture 3 Credit hours
Basics of TCP/IP protocol as the backbone of Internet; the OSI model for 7 layers of communication; interfacing between layers; connection based vs. connection-less communication; local area and wide area inter-networking.

EIT 591 Special Topics in Information Technology 3 Credit hours
Selected mutually by the student and his/her advisor. Will focus on student's main interest.

EIT 598 Thesis 3 Credit hours
Research leading to the MSIT with thesis degree; Must show mastery of some special field, must be an original contribution to that field and must be presented in scholarly form.