All ITP courses are open to non-engineering majors. The “x” designation indicates that engineering students require prior departmental approval to count 100-level and above ITP courses for major credit.

Courses of Instruction
The terms indicated are expected but are not guaranteed. For the courses offered during any given term, consult the Schedule of Classes.

INFORMATION TECHNOLOGY PROGRAM (ITP)

010x Supporting Microsoft Windows 95 (2, FaSpSm) Installing, configuring, customizing, optimizing, administering, and troubleshooting Windows 95. Networking issues such as integrating and messaging. Prerequisite: extensive experience with Windows version 3.x. Not available for degree credit. Graded CR/NC.

011x Supporting Microsoft Windows NT (2, FaSpSm) Configuring, customizing, optimizing, integrating, and troubleshooting Microsoft Windows NT operating system. Interoperating with IPX and TCP/IP. Not available for degree credit. Graded CR/NC. Prerequisite: extensive knowledge of Windows and network concepts.

012x Supporting Microsoft Windows NT Server (2, FaSpSm) Installing, configuring, and supporting the Microsoft Windows NT Server operating system in local and wide area network (WAN) environments. Not available for degree credit. Graded CR/NC. Prerequisite: ITP 011x.


014x Supporting Microsoft Internet Information Server (1) Overview of installing, configuring, and supporting Internet Information Server. Support for FTP, Gopher, WWW, and WAIS. Implementing and planning a complete internet site. Graded CR/NC.

015x System Administration for Microsoft SQL Server (2) Installing, configuring, administering, and troubleshooting Microsoft SQL Server. Hands-on laboratories managing user accounts, login security, database permissions, and backing up and restoring a database. Graded CR/NC.

016x Networking Essentials (1, FaSpSm) Basic concepts of local area networks, WANs, data communications, and connectivity. Network protocols, media types, network architecture, topologies, cabling, and transmission. Not available for degree credit. Graded CR/NC.

017x Internetworking Microsoft TCP/IP (2, FaSpSm) Setting up, configuring, using, and supporting Transmission Control Protocol/Internet Protocol (TCP/IP) in the Windows environment. Not available for degree credit. Prerequisite: ITP 011x.

018x Core Technologies of Microsoft Exchange Server (2, FaSpSm) Administration of Microsoft Exchange in a single-site or multiple-site environment; integration with Novell, Outlook, and Lotus email. Graded CR/NC. Not available for degree credit. Prerequisite: ITP 011x.

022x Word Processing Using Microsoft Word (1) Overview of word processing and basic microcomputer operations using Microsoft Word. Basic document creation, editing, formatting, and printing, Spell-checking, document merging, searching, and replacing. Not available for degree credit. Graded CR/NC.

031x Introduction to Microsoft Excel (1) Spreadsheet applications on microcomputers using Microsoft Excel; fundamentals of problem solving and data analysis using a wide variety of spreadsheet features. Not available for degree credit. Graded CR/NC.

042x Introduction to Microsoft Windows (1) Practical knowledge and insight into Windows and software using character and graphical based applications and multitasking. Installation, configuration, and optimization. Not available for degree credit. Graded CR/NC.

043x The Internet (2, FaSp) Overview of the Internet, effective searching techniques, connection protocols; use of email, newsgroup, real-time chat, World Wide Web. Internet security and server issues. Not available for degree credit. Graded CR/NC.

046x Introduction to Web Publishing (1, FaSp) Overview of how to create professional and colorful screen presentations, overhead transparencies, outlines and 35 mm slides using a presentation graphics program. Not available for degree credit. Graded CR/NC.

050x Microsoft Power Point (1, FaSpSm) Overview of how to create professional and colorful screen presentations, overhead transparencies, outlines and 35 mm slides using a presentation graphics program. Not available for degree credit. Graded CR/NC.

065x Microsoft Access (1, FaSpSm) Microsoft Access will allow students to learn how to plan, define, create, and modify a database in the Windows environment. Not available for degree credit. Graded CR/NC.

068x Introduction to MATLAB (2, FaSpSm) Fundamentals of MATLAB: a high-performance numeric computation and visualization environment. Overview of linear algebra and matrix manipulation; using 2-D and 3-D plotting routines; programming in MATLAB; basic numerical analysis. Not available for degree credit. Graded CR/NC. Recommended preparation: MATH 118x or MATH 125.

090x Introduction to Adobe Photoshop (2, FaSpSm) Basic concepts of colors;
color calibration tools; scanning, importing and exporting images; painting, editing, fill, and type tools; using layers, masks, filters, and color correction. Not available for degree credit. Graded CR/NC.

100x Information Technology for Business (2, FaSp) Introduction to current operating systems and architecture; survey of the latest uses of applications software in business; networking concepts, programming languages and fundamentals of programming.

101x Introduction to Information Technology (4, FaSpSm) Introduction to computer hardware, operating systems, networks, programming. Survey of application software in business and industry. Computer issues in the work place and society.

104x Internet Publishing Technologies (2, FaSp) Basic Internet publishing using HTML and other Web technologies. Concepts and theory of Web publishing and production. Introduction to page layout and design. Prerequisite: basic computer literacy.

105x Introduction to Computer Technologies and Applications (2, FaSp) The course offers a primer in computer technologies and applications essential to academic and career success. Not available for major credit to engineering majors.

106 Information Literacy and Technology Issues (2, FaSp) A basic course in research and electronic information retrieval, including evaluative procedures and ethical issues.

109x Introduction to Java Programming (2, FaSpSm) Introduction to object-oriented software design for business problems. Creation of console applications, windowed applications, and interactive Web applets.

110x Introduction to C Programming (2) Fundamentals of C; a survey of C compilers; the role of C in developing Unix and other operating systems. Prerequisite: knowledge of a higher-level language.

150x Introduction to Visual BASIC (2, FaSp) This course provides students with no previous programming experience with the basics for and creating their own interactive windows applications using visual programming techniques. Prerequisite: high school algebra.

165x Introduction to C++ Programming (2, Fa) Fundamentals of C++ syntax and semantics, including function prototypes, overloading, memory management, abstract data types, object creation, pointers to class members, and I/O streams. Prerequisite: any high-level programming language.

203x Advanced Programming with Engineering Applications (3) Multidimensional arrays; linear systems; numerical solutions of nonlinear equations; polynomials and integrals; computer graphics and other related topics (e.g., simulations) Not available for credit to CSCI or EE majors. Prerequisite: ITP 103x or ITP 105x or ITP 110x, MATH 125.

204x Fundamentals of Web Development (3, Sp) Programming fundamentals necessary for Web development. Scripting languages, development tools and techniques for creating interactive, dynamic Web pages. Prerequisite: ITP 104x.

209x Object Oriented Programming Using Java (3, FaSp) Basic object-oriented concepts and object-oriented analysis and design as they relate to Java technology. Object-oriented programming for developing applications with Java technology. Prerequisite: ITP 109x.

210x Multimedia Applications for Windows (2, Fa) Focuses on creating powerful presentations with affordable multimedia hardware and software; integrates sound, video and animation into windowing environment. Prerequisite: ITP 101x.

211x Multimedia Authoring (2, FaSpSm) Introduction to interactive multimedia programming; integrated audio, graphics, video, and animation for interactive multimedia; object oriented programming, web, CD-ROM, and hybrid applications. Recommended preparation: programming experience.

212x Digital Media Design and Management (3, FaSpSm) Design and composition as it applies to digital media, including web, CD, interactivity, and motion graphics. Media management, client relations, project and asset management.

215x 3-D Modeling, Animation, Compositing and Special Effects (2, FaSpSm) Overview of developing a 3D animation: from modeling to rendering. Basics of surfacing, lighting, animation and modeling techniques. Advanced topics: compositing, particle systems, and character animation. Prerequisite: knowledge of any 2D paint, drawing or CAD program.

220x Video Editing and Effects for Multimedia, the Web, and Broadcast (2, FaSpSm) Techniques for digital, nonlinear video editing and compositing. Special video effects, rendering and compression for multimedia, the Web, and Broadcast. Recommended preparation: general PC-based computer proficiency.

225x The UNIX System (2) UNIX system concepts; the Shell command language; utilities, editors, file structure, and text formatters. C Shell, Bourne Shell, and the awk programming language. Prerequisite: ITP 101x.

250x Building Client/Server Applications (2) Fundamentals of Client/Server architecture and development tools; hands-on laboratories using Visual Basic, ODBC, and SQL Server Database Engines; overview of network operating systems.

265x Advanced C++ and Java Application (2, SpSm) Advanced application programming techniques using C++ and Java in an integrated visual development environment with foundation classes, database connectivity and client/server architecture. Prerequisite: ITP 109 or ITP 165 or CSCI 101L.

300x Database Web Development (3, FaSp) Fundamental theory and technologies for creating dynamic, database-driven Web sites: Structured Query Language. Prerequisite: ITP 104x; recommended preparation: ITP 204x.

305x Advanced 3-D Modeling, Animation and Special Effects (3, FaSpSm) Advanced modeling, surfacing, and animation techniques, as well as compositing, dynamics, scripting, and other advanced 3-D automation procedures. Prerequisite: ITP 215x or ARCH 207a.

309x Developing Enterprise Applications Using Java (3, FaSp) Java architecture and key logic for business components; Servlets, Server Pages and
Enterprise Java Beans technologies, to design and construct secure and scalable n-tier applications.

315x Applications for 3D Special Effects and Character Animation (2)
This advanced 3D animation course explores applications for various special effects processes, focusing on the use of particle systems, texture mapping, character and facial animation, and live action compositing. Prerequisite: ITP 215x.

320x Enterprise Wide Information Systems (2, FaSpSm)
The role that Information Systems play in an organization and the challenging task of implementing and managing the IS function are both examined in detail. Prerequisite: ITP 101x.

321x Programming Enterprise Wide Information Systems (2, FaSpSm)
Programming enterprise applications using ABAP/4. Topics include: ABAP/4 Development Workbench, Data Dictionary, Subroutines and Functions, database tables, data objects, and designing reports. Prerequisite: ITP 320.

325x Web Security (3, FaSp)
Computer networks and inherent security issues that apply to networking. Encryption protocols, securing servers, and secure network architectures. Prerequisite: ITP 104x.

330x Interactive 3-D Environments (3, FaSpSm)
Introduces techniques to design and develop interactive, multi-user 3-D, 2-D, and textual environments, for business, personal communications, education, and gaming for the web and CD. Prerequisite: ITP 211x.

360x 3-D Industry Tools (3, FaSp)
Techniques, concepts and tools for professional 3-D animation development. Strengths/weaknesses of industry-standard middle-end and high-end animation packages; hands-on instruction, discussion, and analysis. Prerequisite: ITP 215x or ARCH 207a.

377x Linux System Administration (3, FaSp)
Installation, customization and administration of Linux in a networked environment. Prerequisite: ITP 225x.

404x Intermediate Web Development (3, Fa) Web development using server-side technologies, including scripting, CGI, active server pages and Java servlets. Prerequisite: ITP 204x.

411x Interactive Multimedia Production (3, FaSpSm)
Interactive multimedia production tools. This course is intended for students interested in multimedia content creation. Prerequisite: ITP 320x.

413x Interactive Web Development (4, FaSpSm)
Covers most technical aspects of producing interactive online Web pages on the World Wide Web, through the use of development tools for publishing. Prerequisite: JOUR 412 or working knowledge of HTML.

414x Advanced Project Development (3, FaSp)
Advanced planning, budgeting, and production processes and techniques for new media projects; team-building and management practices for creative teams. Graded CR/NC. Recommended preparation: a minimum 20 units from the ITP 3-D Animation minor.

420x Structuring Data for the Web (3, FaSp)
Building web applications focused on content in web documents; develop XML document using DTD, DOM, XSL; facilitate data interchange between Web sites. Prerequisite: ITP 300x.

440x Enterprise Data Management (3, FaSp)
Advanced concepts in database management; design, customization, maintenance and management of a database in an enterprise environment. Prerequisite: IOM 435 or ITP 300.

450x Designing eCommerce Applications (4, FaSp)
Fundamentals of business and technological elements of electronic commerce. Design of solutions for the Internet using eCommerce development technologies and programming Business-to-Consumer applications. Prerequisite: ITP 404x or ITP 413x.

451x Designing Business-to-Business E-Commerce Solutions (3, FaSp)
Foundations of b2b electronic marketplaces; automation of sell-side/buy-side e-commerce through XML programming and catalogue interfacing; implementation of b2b commerce between existing enterprise resource planning systems. Prerequisite: ITP 204x or ITP 450x; recommended preparation: ITP 320x.

454x Enterprise Resource Planning, Design, and Implementation (3, FaSp)
An in-depth look at the process and requirements necessary to implement an Enterprise Resource Planning System (ERP). Students will set up a server system, implement an ERP system, then transfer and configure a database for a case company. Prerequisite: ITP 320x; corequisite: ACCT 454.

460x Web Application Project (4, FaSp)
Analysis, planning, creation and maintenance of a web application are undertaken, using principles and practices of system development methodology. Prerequisite: ITP 404x.

499x Special Topics (2-4, max 8)
Recent developments in computers and data processing.

G R A D U A T E C O U R S E S

555 Functionality of Enterprise Resource Planning Systems (1, FaSp)