

NORTHWEST

missouri / state / university / maryville

COMPUTER SCIENCE/ INFORMATION SYSTEMS

Booth College of Business and Professional Studies

COMPUTER SCIENCE/ INFORMATION SYSTEMS

MAJORS

- Computer Science
- Interactive Digital Media, Computer Science Programming Concentration
- Management Information Systems
- Office Information Systems
- Business Education

MINORS

- Computer Science
- Computer Networking
- Business Education
- Marketing and Cooperative Education
- Endorsement for Middle School Certification
 - Business Education
 - Elementary Education
- Database Management Systems
- Computer Applications
- Systems Management
- Interactive Digital Media
- Geographic Information Systems

CERTIFICATE PROGRAMS

- Office Systems Certificate
- Information Systems Certificate
- Medical Administrative Assistant

THE DEPARTMENT

The mission of the Department of Computer Science/Information Systems is to develop and enhance an individual's professional competence in the areas of computer and related technologies. The goal of each major is to provide a focused curriculum to enable students to compete successfully in the job market while also providing sufficient breadth to facilitate lifelong learning, through formal graduate study or on the job. Each major offers the student an opportunity to obtain a thorough knowledge of the field of study, develop the professional competencies to communicate that knowledge and acquire a value system that will enable the student to make sound decisions regarding ethical issues that confront professionals in the workplace.

DEGREE PROGRAMS

The Department of Computer Science/Information Systems offers programs leading to the Bachelor of Science degree in the areas of computer science, interactive digital media, management information systems and office information systems. For students interested in teaching business and economics in grades 9-12, the department offers the Bachelor of Science in Education degree with a major in Business Education. Minors are available in computer networking, database management systems, computer applications and systems management to meet students needs. In addition, non-degree office systems, information systems and medical administrative assistant certificate programs are also available.

In all of these programs, students learn fundamental concepts while engaging in activities similar to those encountered in the workplace. Small classes are taught by full-time faculty who use active learning techniques which focus on the student's learning process, with the teacher's role that of guide, facilitator and mentor.

These programs are supported by a wide variety of computing facilities ranging from local area networks of microcomputers to campus-wide access of timesharing systems to an international network of computing systems.

COMPUTER SCIENCE

Students pursuing a degree in computer science study the design and performance of computers and computational processes. The design and implementation of efficient reliable software and hardware to meet given specifications is of particular importance.

INTERACTIVE DIGITAL MEDIA

This unique major combines courses from computer science, art and mass communication to give students a complete working knowledge of digital media. The goal of this major is to produce graduates who are proficient in written and visual communication/design, computer programming and legal and ethical considerations as they relate to the Internet and electronic digital media.

MANAGEMENT INFORMATION SYSTEMS

Students in the management information systems program focus on knowledge of business and applied computer technologies for responsible participation in the management information systems field.

OFFICE INFORMATION SYSTEMS AND BUSINESS EDUCATION

Office information systems and business education students develop interpersonal, decision making and analytical skills in dealing with office and business problems and situations. Additionally, education majors learn to motivate students to develop these same attributes.



MAJORS

COMPUTER SCIENCE

B.S. – no minor required

Required Courses

Computer Programming I
 Computer Programming II
 Data and File Structures
 Professional Development Seminar
 Programming Languages
 Computer Organization I
 Survey of Algorithms
 CCNA: Network Fundamentals
 Computer Organization II
 Operating Systems
 Database Systems
 Theory and Implementation of
 Programming Languages
 Software Engineering I
 Software Engineering II
 Calculus I
 Calculus II OR General Statistics II
 Discrete Mathematics
 Probability and Statistics
 General Physics I and II and Lab OR
 Fund. of Classical Physics I and II and
 Lab OR General Chemistry I and II
 and Lab

INTERACTIVE DIGITAL MEDIA

B.S. – no minor required

This degree involves courses from computer science, art and mass communication. Students in this major take courses from all three departments while focusing on a specific concentration.

Directed Institutional Requirement

Computers and Information Technology

Required Core Courses

Introduction to Design
 Digital Photography
 Introduction to Creative Electronic
 Imaging
 Letterforms and Graphic Design
 Introduction to Mass Media
 Media Design I
 Introduction to Web Publishing
 Communication Law
 Script Programming I
 Multimedia and Web Development
 Script Programming II
 Principles of Marketing

Required Courses for Computer Science

Programming Concentration

Computer Programming I
 Computer Programming II

Data and File Structures
 Computer Organization I
 CCNA: Network Fundamentals
 Interactive Digital Media Seminar
 Database Systems
 Web Services Technology

Choose one from the following:

Visual Application Development
 Server Applications & Network
 Security
 Advanced Topics in Database
 Systems
 Special Topics

MANAGEMENT INFORMATION SYSTEMS

B.S. – no minor required

Required Courses

Common Professional Component
 courses
 Computer Programming I
 Computer Programming II
 COBOL Programming
 Information Technology Hardware and
 Software
 CCNA: Network Fundamentals
 Systems Analysis and Design
 Information Technology Project
 Management
 Database Systems
 Visual Application Development

OFFICE INFORMATION SYSTEMS

B.S. – no minor required

Required Courses

Common Professional Component
 courses
 Spreadsheet Applications
 Advanced Spreadsheets and Charting
 DigiTools
 Advanced Word Processing
 Presentation Graphics
 Digital Media
 Virtual Workplace
 Desktop Publishing
 Database Applications
 Advisor-approved electives

Choose one from the following emphasis areas:

Interactive Digital Media Emphasis
 Script Programming I
 Multimedia and Web Development
 Management Emphasis
 Human Resource Management
 Organizational Behavior and Theory

BUSINESS EDUCATION

B.S. Ed. – no minor required, Secondary Program; (certifies grades 9-12)

Required Courses

Common Professional Component
 courses
 DigiTools
 Advanced Word Processing
 Presentation Graphics
 Digital Media
 Virtual Workplace OR
 Internship in Computer Science/
 Information Systems
 Desktop Publishing
 Implementing Business and Marketing
 Education Programs
 Methods of Teaching Business and
 Marketing

COMMON PROFESSIONAL REQUIREMENTS FOR ACCREDITED BUSINESS PROGRAMS

Applies to Business Education, Management Information Systems and Office Information Systems majors.

To ensure a common professional component among the accredited business education, management information systems or office information systems are required to fulfill the following professional component requirements:

General Education Courses

General Statistics I
 General Economics I

Directed Institutional Requirement

Computers and Information Technology

Non-business Courses

College Algebra
 General Economics II

Business Courses

Accounting I
 Accounting II
 Business Law I
 Fundamentals of Business Finance
 Managerial Communication
 Principles of Management
 Operations Management
 Organizational Policy and
 Decision-Making
 Principles of Marketing
 International Business
 Management Information Systems

MINORS

COMPUTER SCIENCE

Directed Institutional Requirement

Computers and Information Technology

Required Courses

Computer Programming I
Computer Programming II
Data and File Structures
Computer Organization I

Choose one from the following:

Visual Basic Application Programming
Scientific Computing
COBOL Programming

Choose two courses from the following:

Programming Languages
Survey of Algorithms
CCNA: Network Fundamentals
Computer Organization II
Operating Systems
Database Systems
Theory and Implementation of
Programming Languages
Software Engineering I
Visual Application Development OR
Special Topics

COMPUTER NETWORKING

Directed Institutional Requirement

Computers and Information Technology

Required Courses

Information Technology Hardware &
Software OR Computer Organization
CCNA: Network Fundamentals
CCNA: Routing Protocols & Concepts
CCNA: LAN Switching & Wireless
CCNA: Accessing the WAN
Server Applications and Network
Security

Choose one course from the following:

Visual Basic Application Programming
Computer Programming I
Multimedia and Web Development
Operating Systems
Database Systems
Visual Application Development
Web Services Technology

BUSINESS EDUCATION

*B.S. Ed. degree, secondary program
(certifies grades 9-12)*

Directed Institutional Requirement

Computers and Information Technology

Required Courses

DigiTools
Advanced Word Processing
Presentation Graphics

Digital Media
Virtual Workplace
Accounting I
General Economics I
Business Law I
Managerial Communication
Principles of Management
Principles of Marketing
Implementing Business & Marketing
Education Programs
Internship in Computer Science/
Information Systems OR 2000 work
hours in a business/office

MARKETING AND COOPERATIVE EDUCATION

Required Courses

Principles of Management
General Economics I
Accounting I
Accounting II
Fundamentals of Business Finance
Principles of Marketing
International Business
Implementing Business & Marketing
Education Programs
Coordination of Cooperative Education

Choose two courses from the following:

Retailing
Promotion
Consumer Behavior
Sales and Sales Management
Logistics Management
Approved occupational experience or
internship

ENDORSEMENT FOR MIDDLE SCHOOL CERTIFICATION – BUSINESS EDUCATION

*Certifies grades 5-9 when completed with
the Middle School major*

Directed Institutional Requirement

Computers and Information Technology

Required Courses

DigiTools
Spreadsheets
Advanced Spreadsheets and Charting
Advanced Word Processing
Presentation Graphics
Multimedia and Web Development
Digital Media
Desktop Publishing
Database Applications
Survey of Economics
Personal Money Management

DATABASE MANAGEMENT SYSTEMS

Directed Institutional Requirement

Computers and Information Technology

Required Courses

Computer Programming I
Computer Programming II
Database Systems
Visual Application Development
Advanced Topics in Database Systems
Web Services Technology

Choose one course from the following:

Data and File Structures
COBOL Programming
Systems Analysis and Design

COMPUTER APPLICATIONS

Required Courses

Computers and Information Technology
Visual Basic Application Programming
Spreadsheet Applications
Advanced Spreadsheets and Charting
DigiTools
Advanced Word Processing
Presentation Graphics
Multimedia and Web Development
Digital Media
Desktop Publishing
Database Applications

Choose one course from the following:

Script Programming
Information Technology Hardware &
Software
CCNA: Network Fundamentals

SYSTEMS MANAGEMENT

Computers and Information Technology
Visual Basic Application Programming
OR Computer Programming I
Professional Development Seminar
Management Information Systems
Systems Analysis and Design
Information Technology Project
Management
Accounting I
Principles of Management
Principles of Marketing

INTERACTIVE DIGITAL MEDIA

*This is an interdisciplinary minor in
conjunction with the art, computer
science/information systems and mass
communication.*

Directed Institutional Requirement

Computers and Information Technology

Required Courses

Introduction to Design
Introduction to Creative Electronic
Imaging

Media Design I
Introduction to Web Publishing
Script Programming I
Multimedia and Web Development

Choose two from the following:

Drawing
Digital Photography
Multimedia Audio/Video Production
Multimedia Production
Computer Programming I
Script Programming II

GEOGRAPHIC INFORMATION SYSTEMS

This is an interdisciplinary minor in conjunction with the computer science/information systems and geography.

Directed Institutional Requirement

Computers and Information Technology

Required Courses

Geography

Maps and Map Interpretation
Geographic Information Systems
Advanced Geographic Information Systems

Computer Science

Visual Basic Application Programming
Computer Programming I
Computer Programming II
Database Applications
Database Systems

Choose two courses from the following:

Cartography
Remote Sensing
Advanced Cartography
Digital Image Processing
Data and File Structures
Advanced Word Processing
Presentation Graphics
Digital Media
Visual Application Development
Current Topics in Computer Science

COMPUTER CONCENTRATION

Elementary education

Directed Institutional Requirement

Computers and Information Technology

Required Courses

Spreadsheets
Advanced Spreadsheets and Charting
Web Page Development
DigiTools
Advanced Word Processing
Presentation Graphics

Digital Media
Database Applications
Practicum in Computer Science Teaching

Choose two courses from the following:

Visual Basic Application Programming
Information Technology Hardware & Software
Multimedia and Web Development
Desktop Publishing

CERTIFICATE PROGRAMS

The Booth College of Business and Professional Studies offers a two-year office systems program, a two-year information systems program, an information system certificate and a two-year medical administrative assistant program. On the successful completion of a program, the student is awarded a certificate. Courses in these programs are fully accredited and may be applied to a degree program should a student later decide to complete a college degree.

OFFICE SYSTEMS CERTIFICATE

Required Courses

Freshman Seminar
General Psychology
Composition OR ACT English credit/
Honors Composition
Computers and Information Technology
Spreadsheet Applications
Advanced Spreadsheets and Charting
Web Page Development
DigiTools
Advanced Word Processing
Presentation Graphics
Digital Media
Virtual Workplace
Database Applications
Fundamentals of Oral Communication
Accounting I
Accounting II
Business Law I
Managerial Communication
Principles of Management
Advisor-approved electives

INFORMATION SYSTEMS CERTIFICATE

Computers and Information Technology
Visual Basic Application Programming
Advanced Word Processing

Presentation Graphics
Multimedia and Web Development
Digital Media
Desktop Publishing

MEDICAL ADMINISTRATIVE ASSISTANT

The Medical Administrative Assistant program is in cooperation with the Department of Biological Sciences.

Required Courses

Freshman Seminar
General Biology and Lab
Medical Terminology
General Zoology and Lab
General Microbiology
Human Anatomy
Composition OR ACT English credit/
Honors Composition
College Algebra
General Chemistry and Lab
Computers and Information Technology
Spreadsheet Applications
Advanced Spreadsheets and Charting
DigiTools
Advanced Word Processing
Presentation Graphics
Digital Media
Virtual Workplace
Database Applications
Accounting I
Managerial Communication
Principles of Management

Choose one from the following:

Web Page Development
Medical Transcription and Medical Records Practicum
Business Law I
General Psychology

COURSE DESCRIPTIONS

COMPUTER SCIENCE/INFORMATION SYSTEMS

Computers and Information Technology

Introduction to computer systems. Topics include integrated office applications, hardware, software, Internet, and the rights and responsibilities of computer users.

COMPUTER SCIENCE

Visual Basic Application Programming

An introduction to event-driven programming in an object-oriented environment.

Computer Programming I

An introduction to object-oriented programming; analyze problems, design and implement solutions.

Scientific Computing

Tools and techniques for using a computer to solve numeric problems with an emphasis on scientific and mathematical applications.

Java as a Second Language

An intensive introduction to object-oriented programming using the Java programming language. Course is designed for those who have studied programming in a language other than Java. No credit will be given if student has already completed Computer Programming II.

Computer Programming II

Intermediate computer programming, design of algorithms and introduction to data structures.

Data and File Structures

Abstract data structures including stacks, queues, lists and trees. File structures emphasizing random access files. Construction of graphical user interfaces.

COBOL Programming

Structured COBOL and its applications to programming business information systems.

Professional Development Seminar

Emphasis on ethical issues in the workplace and professional development for the field of computing.

Programming Languages

A survey of the features of contemporary programming languages chosen to illustrate two different programming paradigms. Extensive programming in each of the languages.

Computer Organization I

Introduction to computer systems organization with emphasis on machine language and assembler programming.

A Survey of Algorithms

A study of algorithms central to the major areas of computer science.

CCNA: Network Fundamentals

Course introduces the architecture, structure, functions, components,

and models of the Internet and other computer networks. The Open Systems Interconnection (OSI) and Transport Control Protocol (TCP) layered models are used to examine the nature and roles of protocols and services at the application, network, data link, and physical layers. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media and operations are introduced. The first of four courses leading to a Cisco Certified Network Associate (CCNA) certification.

CCNA: Routing Protocols and Concepts

Describes the architecture, components, and operation of routers, and explains the principles of routing and routing protocols. Students analyze, configure, verify, and troubleshoot the primary routing protocols Routing Information Protocol (RIP)v1, RIPv2, Enhanced Interior Gateway Routing Protocol (EIGRP), and Open Shortest Path First (OSPF). The second of four courses to prepare students for the Cisco Certified Network Associate (CCNA) certification.

Computer Organization II

A continuation of Computer Organization I with emphasis on processor design, pipelining, memory hierarchy and input/output.

Operating Systems

Course covers concepts of operating systems, including process and storage management, protection, security and distributed systems.

CCNA: LAN Switching and Wireless

Helps students develop an in-depth understanding of how switches operate and are implemented in the LAN environment for small and large networks. Beginning with a foundational overview of Ethernet, this course provides detailed explanations of Local Area Network (LAN) switch operation, Virtual LAN (VLAN) implementation, Rapid Spanning Tree Protocol (RSTP), VLAN Trunking Protocol (VTP), Inter-VLAN routing, and wireless network operations. Students analyze, configure, verify, and troubleshoot VLANs, STP, VTP, and wireless networks. Campus network design and Layer 3 switching concepts are introduced. The third of four courses leading to a Cisco Certified Network Associate (CCNA) certification.

CCNA: Accessing the Wide Area Network

Explains the principles of traffic control and access control lists (ACLs) and provides an overview of the services and protocols at the data link layer for wide-area access. Students learn about user access technologies and devices and discover how to implement and configure Point-to-Point Protocol (PPP), Point-to-Point Protocol over Ethernet (PPPoE), tunneling, and Virtual Private Network (VPN) basics are introduced. Concludes with a discussion of the special network services required by converged applications and an introduction to quality of service (QoS). The fourth of four courses leading to a Cisco Certified Network Associate (CCNA) certification.

Database Systems

An introduction to database systems, including data modeling, design, and implementation.

Practicum in Computer Science Teaching

Supervised practice in an educational computing environment. Through the use of journals, observation by staff members and curriculum projects, students will develop their teaching skills, plan teaching strategies, and develop organizational and instructional competencies. May be repeated.

Theory and Implementation of Programming Languages

Syntax and semantics of programming languages; the translation process; and features of procedural, applicative, and object-oriented languages.

Visual Application Development

An introduction to programming Microsoft Windows applications.

Server Applications and Network Security

A study of computer network security issues. Includes hands-on experience in server applications as well as some practice in client/server programming.

Advanced Topics in Database Systems

Advanced topics in database systems, including database administration, distributed databases, data warehousing and object-oriented databases. Hands-on experience using a DBMS in a client/server environment.

Software Engineering I

A study of systems analysis, requirements specification, and human computer interaction.

Software Engineering II

A study of software design, testing and project management.

Web Services Technology

Course covers technologies and protocols supporting web services. The XML-based industry standards and the Java-based technologies that support web services will be covered, including XML, SOAP, XSL, XSLT, UDDI, WSDL, servlets, Java Server Pages, J2EE and JDBC. Hands-on experience in server-side programming. Examples and case studies will use relational databases.

Current Topics in Computer Science

Courses emphasizing current topics in computer science which are offered according to student need and interest, and have the content described in the title. May be repeated provided the content is different.

INTERACTIVE DIGITAL MEDIA

Script Programming I

An introduction to a script language for multimedia software applications.

Multimedia and Web Development

This course will acquaint the student with a variety of multimedia resources that could be incorporated in the design and production of a multimedia project on a variety of computer platforms. The focal points in this class will be on the proper design and generation of multimedia projects with an emphasis on web pages.

Script Programming II

An introduction to a scripting language that enables web browser interactivity.

Interactive Digital Media Seminar

A seminar dealing in issues faced by multimedia professionals and preparation for advanced study. Major emphasis will be placed on the development of a professional portfolio, resume writing and interviews for the field of multimedia.

MANAGEMENT INFORMATION SYSTEMS

Information Technology Hardware and Software

Course provides the hardware and software technology background to enable systems development personnel to understand trade-offs in computer architecture for effective use in a business environment. System architecture is explored for single use, central, and networked computing systems; single and multi-user operating systems.

Management Information Systems

A study of business systems and their relationship with computer systems. The interaction of various systems of the organization and computer technology is emphasized.

Systems Analysis and Design

A study of the procedures necessary to analyze and design computerized business systems. Written and oral proposals based on design methods and techniques will be used to develop the student's analysis and communication skills.

Information Technology Project Management

A detailed study of project management including life cycle, scope, integration, controls and the use of project management software.

Current Topics in Information Systems

Selected topics in information systems emphasizing current development in the field. May be repeated provided the content is different.

OFFICE INFORMATION SYSTEMS

Spreadsheet Applications

A course on the intensive use of spreadsheets including features such as financial functions, querying a list, web queries for real-time data and what-if analysis.

Advanced Spreadsheets and Charting

A course on the intensive use of spreadsheet features such as using templates, data consolidation, macros, solver, scenarios, and pivot tables and charts.

Web Page Development

Application of web authoring program to develop, create and maintain a web page. Program used will parallel that found in industry.

DigiTools

Emphasis on proficient use of varied input technologies. Students enter and manipulate text and data and prepare documents with handheld and tablet computers, speech recognition software, scanning, handwriting recognition and keyboarding.

Advanced Word Processing

Advanced word processing skills and concepts will be emphasized to manipulate, organize, and enhance documents.

Presentation Graphics

Concepts, design elements, and preparation of presentation graphics. Projects with electronic presentation and imaging software will be completed.

Digital Media

Designing and using digital media to produce multimedia projects with audio and video.

Virtual Workplace

A study of the functions that make up an office support or information processing system. Through applications, practice, and discussion, students will refine office skills, develop a business vocabulary and perform a variety of office tasks to prepare for a career as an administrative assistant.

Desktop Publishing

Course will identify the concepts and applications of desktop publishing and develop competencies using a powerful computer language as a desktop publishing tool.

Database Applications

Applications of database management software for creating, querying and manipulating databases.

Current Topics in Office Information Systems

Topics selected to emphasize the current developments in office systems. May be repeated provided the content is different.

BUSINESS EDUCATION

Methods of Teaching Business and Marketing

The selection, development, and presentation of the business, marketing, and cooperative education curriculum. Includes methods, techniques, assessment, and current issues and trends.

Technology Curriculum and Integration

An examination of standards and curriculum for the integration of technology in educational and business environments. The integration of technology throughout K-12 classrooms will be emphasized.

Implementing Business and Marketing Education Programs

Fundamental concepts in business, marketing, and cooperative education programs are studied for implementing effective programs. The study includes organization and development of curriculum, student organizations, funding, advisory committees and program evaluation.

COMMON PROFESSIONAL COMPONENT

General Statistics I

Basic concepts of decision making, central values, variability, probability and statistical inference, elementary concepts of correlation, parametric tests of significance, and regression analysis. Will satisfy the General Education requirement in mathematics. Proficiency examination is available.

General Economics I

An introduction to the fundamental principles of macroeconomic analysis. The basic principles relating to aggregate supply and demand; the determination of national income, employment and price level; money and banking; monetary and fiscal policies; and alternative economic systems are studied.

College Algebra

Topics include functions and graphs, systems of equations and inequalities and analytic geometry. Designed for students who plan continued study in college mathematics.

General Economics II

An introduction to the fundamental principles of microeconomic analysis. The basic principles relating to the decision-making by the individual household and the individual firm under different market structures, the allocation of society's resources and international trade and balance of payments are studied.

Accounting I

A beginning course in the principles and theory of accounting.

Accounting II

A continuation of Accounting I, with partnership and corporation as forms of business organizations emphasized.

Business Law I

Fundamental principles of law in relation to the legal environment of business, including procedure and evidence, business ethics, court systems, contracts, torts, administrative law and constitutional law.

Fundamentals of Business Finance

A study of the financial structure of corporations, principles and techniques used in financial analysis and decision-making.

Managerial Communication

Designed to acquaint student with current knowledge and emerging trends in managerial communication. Emphasis on developing and improving business writing (letters, memoranda, reports) and oral presentation skills, understanding the importance of communication in organizations, developing skills needed in

the job search and learning how to match specific communication styles to various situations.

Principles of Management

An introduction to the field of management designed to give a basic understanding of the principles, concepts and functions of management within that social system called the information era. Successful management is dependent on fostering responsible and autonomous behavior, as authoritarian structures are being replaced by democratic processes evolving within modern organizations. Thus, successful management is studied as the processes and behavior of participative management.

Operations Management

A study of the several areas of primary concern to the production manager, including layout, work measurement, wage incentives, inventory control and quality control. The use of both qualitative and quantitative tools to aid in decision-making will be introduced.

Organizational Policy and Decision-Making

A course designed to give students the opportunity to integrate information from the functional areas of an organization in the formation and implementation of policy decisions. Computer simulations will also be utilized to simulate organizational decision-making.

Principles of Marketing

The study of determination and satisfaction of consumer wants or needs from a managerial perspective. Elements of this process include market research, demand analysis, product development, pricing, promotion and distribution.

International Business

A course on the myths, misconceptions and misinformation prevailing in International Business, especially in the areas that affect us most — protectionism vs. free trade, balance of payments, deficits and surpluses, the European Union, WTO, problems unique to developing countries, changing trade patterns and reasons why, floating vs. fixed monetary systems, cultural differences and multinationals.

COMPUTING FACILITIES

The Electronic Campus gives students access to the Internet and to the Missouri Research and Education Network.

Computer Science, Office Information Systems and Management Information Systems majors also have access to specialized computer laboratories housed in the Colden Hall Computing Complex. All of this access comes in addition to the laptop provided to each full-time student complete with e-mail, Internet access and a variety of software programs.

CAREER OPPORTUNITIES

COMPUTER SCIENCE

Majors in this field are some of the most sought after in the country. As the world becomes increasingly digital-based, those who can knowledgeably work with computers and digital media will be in high demand. Some places our graduates are working include the following:

- ACI
- Cerner Corporation
- DST Systems, Inc.
- Handmark
- Heartland Health
- Kansas City Power & Light
- Mutual of Omaha
- Principal Financial Group
- Shelter Insurance
- Softek Solutions, Inc.
- SSM Healthcare
- VML
- West Interactive Corporation
- Worldwide, Inc.

INTERACTIVE DIGITAL MEDIA

Students find the following job opportunities waiting for them after graduation:

- Advertising
- CD-ROM production
- Web development
- Web site design/production

MANAGEMENT INFORMATION SYSTEMS

Students in this major will possess the understanding gained through technical and managerial courses to join technology-based work environments as:

- Data Communications Managers
- Information Systems Specialists
- Software Developers
- Systems Analysts

INTERNSHIP OPPORTUNITIES

Thanks to the constant hands-on experience that Computer Science/Information Systems students receive, many find valuable internships that prove useful in obtaining a good job after college. Here are some of the places our students have interned:

- Cerner Corporation
- DST Systems, Inc.
- Kansas City Power & Light
- Principal Financial Group
- Softek Solutions, Inc.
- Sprint

UNDERGRADUATE RESEARCH

Northwest is proud of its undergraduate research program because at most colleges and universities, research opportunities are reserved for graduate students. Recent research projects have involved computer networks, the Java programming language, Web page design and parallel programming.

STUDENT ORGANIZATIONS

Association for Computing Machinery (ACM)

The ACM student organization is the local chapter of the national ACM organization. This chapter is designed to promote a greater interest in computers and applications as well as provide a means of communication for people sharing an interest in computers. The members regularly participate in the national ACM programming contest, take field trips to various computer-oriented businesses and sponsor presentations on current topics of interest.

DigEM

The Digital Electronic Media organization is for Interactive Digital Media majors, minors and students interested in computer programming, new media and visual imaging.

Pi Omega Pi

The national business teacher education honor society honors students with high scholastic ability in business education. Eligibility requirements include interest in becoming a business educator, completion of three trimesters of college courses (including at least 15 hours in business/education subjects) and a 3.00 grade point average in business and education courses. Seniors are eligible to apply for the C&C Taylor Scholarship, awarding up to \$10,000 in scholarships annually.

Upsilon Pi Epsilon (UPE)

UPE is the first and only international honorary society in the computing sciences. Its mission is to recognize excellence at both the undergraduate and graduate levels in computer science. The Northwest UPE chapter (Delta chapter of Missouri) accepted its first members in spring of 2003.

SCHOLARSHIPS

The department offers several scholarships, including the Computer Science Scholarship for Women. Contact the department at (660) 562-1600 for an application.

DEPARTMENT OF COMPUTER SCIENCE/INFORMATION SYSTEMS

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OFFICE OF ADMISSIONS

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