
DIVISION OF BUSINESS AND COMPUTER INFORMATION SYSTEMS

Lois A. Snider, *Chair*

The Division of Business and Computer Information Systems seeks to provide students with a foundation for success in their chosen vocation.

BUSINESS

Bachelor of Arts Degree: *Majors*—Accounting, Business Administration

Bachelor of Science Degree: *Majors*—Accounting, Business Administration

Minors: Accounting, Business Administration

Business Education Certification: Offers courses leading to certification in business education (grades 9-12) in secondary education under the Bachelor of Science in Education degree (see Division of Education for details)

The degrees with a major in business administration allow the student to select an emphasis in one of the following areas: finance, general business, management, or marketing.

Statement of Mission

To equip students with the concepts, skills, and competencies that are fundamental for success in today's business world.

Requirements for BA or BS Degree with Majors in Accounting or in Business Administration

- 1) Complete the campuswide General Education Requirements (and the language requirement if seeking the BA) and the Graduation Requirements (see **Academic Policies** for both).
 - a) Business administration and accounting majors must earn a grade of C or better in MTH 143, 153, or 185 to fulfill the mathematics general education requirement.
 - b) For business administration and accounting majors, ECO 213 (with a grade of C or better) is required to *partially* fulfill the general education's *options* requirement.
- 2) Pass each of the Basic Major Courses with a grade of C or better.

BASIC MAJOR COURSES: 36 hours

ACC 243	Principles of Accounting I	ECO 343	Money & Banking <u>or</u>
ACC 263	Principles of Accounting II	FIN 343	Money & Banking
BUS 273	Business Statistics	FIN 323	Principles of Finance
BUS 303	Business Communications	MAN 243	Principles of Business Management
BUS 363	Business Law	MKT 313	Principles of Marketing
ECO 223	Microeconomics		

Controlled Electives: To complete the 39 hours of Basic Major Courses, take 6 hours of BIS or CIS courses, 200-level or above.

- 3) Submit an application to the chair of the Business Department during the junior year, requesting acceptance as an accounting or business administration major. Application deadlines are November 1 or April 1. Contact a Business Department advisor for an application form and for information on admission procedures. **NOTE:** To be eligible to submit an application:
 - a) Successfully complete at least 12 hours in residence at HLGU before making application.
 - b) Successfully complete at least 60 hours (which include at least six of the Basic Major Courses) and satisfy the minimum CGPA requirement of 2.25 or above. The six completed Basic Major Courses must include 6 hours of economics, 6 hours of accounting, 3 hours of business

software applications, and BUS 333 (Applied Calculus). (*The general business emphasis does not require Applied Calculus.*)

- 4) Select either the major in accounting or the major in business administration, choosing one emphasis. Pass each of the course requirements listed under the major chosen with a grade of C or better.
- 5) Successfully complete a nationally normed exit exam.

Major in Accounting: 33 hours

ACC 333	Intermediate Accounting I	ACC 433	Advanced Accounting
ACC 343	Intermediate Accounting II	ACC 453	Government & Not-for-Profit Accounting
ACC 363	Cost Accounting	BIS 353	Business Information Systems
ACC 373	Intermediate Accounting III	BUS 333	Applied Calculus
ACC 403	Tax Accounting	BUS 499	Business Strategy
ACC 423	Auditing		

Major in Business Administration: Choose from one of the following emphases:

Finance: 24 hours

ACC 333	Intermediate Accounting I	BUS 499	Business Strategy
ACC 343	Intermediate Accounting II	FIN 363	International Trade & Finance
BIS 353	Business Information Systems	FIN 443	Principles of Investments
BUS 333	Applied Calculus	FIN 463	Corporate Finance

General Business: 24 hours

BIS 353	Business Information Systems	BUS 499	Business Strategy
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In addition to the above courses (6 hours): To complete the general business emphasis, students are required to take an additional 18 hours of upper-level courses in accounting, business, business information systems, economics, finance, management, or marketing.

Management: 24 hours

BIS 353	Business Information Systems	MAN 353	Production/Operations Management
BUS 333	Applied Calculus	MAN 433	Human Resources Management
BUS 499	Business Strategy	MAN 463	Retail Business Management
MAN 323	Organizational Behavior		

Controlled Elective: To complete the 24 hours, take an additional 3-hour upper-level Business Department course.

Marketing: 24 hours

BIS 353	Business Information Systems	MKT 323	Principles of Advertising
BUS 333	Applied Calculus	MKT 343	Sales Management
BUS 499	Business Strategy	MKT 483	Marketing Research
CAM 453	Public Relations: Strategies & Tactics		

Controlled Elective: To complete the 24 hours, take an additional 3-hour upper-level Business Department course.

Requirements for Minors

A grade of C or better is required in all courses in a minor.

Accounting. 18 hours— ACC 243, 263, 333, 343; plus 6 hours from 300- and 400-level accounting courses

Business Administration. . . . 18 hours— ACC 243; ECO 213; MAN 243; MKT 313; plus 6 hours from 300- and 400-level courses from any area in the Business Department (*This minor is not available to accounting majors.*)

Course Offerings

ACCOUNTING

ACC 243 Principles of Accounting I

3 hours

Introduces students to fundamental accounting principles, preparation of financial statements, interpretation of accounting data, and the role of financial accounting concepts in business decisions. Prerequisite: MTH 143. Offered fall and spring semesters.

ACC 263 Principles of Accounting II **3 hours**

Continues ACC 243, with an emphasis on accounting principles and problems related to corporations, stocks and bonds, and financial statement analysis. Includes an introduction to cost accounting. Prerequisite: ACC 243. Offered fall and spring semesters.

ACC 291-3 Special Topics **1-3 hours**

Courses offered to meet special needs of students.

ACC 333 Intermediate Accounting I **3 hours**

Focuses on current accounting theory, including the environment of financial accounting, the development of accounting standards, the conceptual framework, the required financial statements, and an in-depth study of fair presentation of assets. Prerequisite: ACC 263. Offered fall semester.

ACC 343 Intermediate Accounting II **3 hours**

Provides continued study of current accounting theory; includes liabilities, capital, dilutive securities, earnings per share, investments, revenue recognition, disclosure, and other advanced topics. Prerequisite: ACC 333. Offered spring semester.

ACC 363 Cost Accounting **3 hours**

Focuses on advanced concepts in cost and managerial accounting. Students will work with quantitative methods of cost estimation and allocation, costing methods, CVP analysis, relevant costing, master budget, and capital budgeting. Includes spreadsheet applications. Prerequisite: ACC 263. Offered fall semester.

ACC 373 Intermediate Accounting III **3 hours**

Offers continued study of current accounting theory; includes accounting for income taxes, deferred tax, pensions, postretirement benefits, lease accounting, statement of cash flows, and ethical issues in accounting. Prerequisite: ACC 343. Offered fall semester.

ACC 391-3 Advanced Topics **1-3 hours**

Courses offered to meet special needs of students. Prerequisite: ACC 243.

ACC 403 Tax Accounting **3 hours**

Deals with federal tax laws, with special emphasis on federal tax treatment of business transactions in the preparation of individual tax returns. Prerequisite: ACC 263 or consent of instructor. Offered spring semester.

ACC 413 Internship **3 hours**

Provides opportunities for supervised experience in Accounting. Prerequisites: Admission to business department and consent of instructor. Offered as needed.

ACC 423 Auditing **3 hours**

Presents theory and techniques of auditing; includes generally accepted auditing standards, professional ethics, legal liability, internal control, audit evidence and opinions, audit sampling, audit programs, and the working papers. Prerequisite: ACC 343. Offered fall semester.

ACC 433 Advanced Accounting **3 hours**

Provides advanced instruction in accounting theory; includes accounting issues resulting from business combinations, consolidation accounting, foreign currency denominated statements, hedging, international accounting issues, and the role of the SEC. Prerequisite: ACC 343. Offered spring semester.

ACC 453 Governmental and Not-for-Profit Accounting **3 hours**

Focuses on accounting for governmental and nonprofit organizations, including state and local governments, colleges and universities, healthcare entities, voluntary health and welfare organizations, and on the most recent GASB and FASB standards. Prerequisite: ACC 263. Offered spring semester.

ACC 491-3 Advanced Topics **1-3 hours**

Courses offered to meet special needs of students. Prerequisite: ACC 343.

BUSINESS INFORMATION SYSTEMS**BIS 201 Web Page Design** **1 hour**

Introduces the creation of web pages using HTML (Hypertext Markup Language). Examines document elements, tags, and structures. Presents the philosophy of HTML and good web-page design, including titles, headings, paragraphs, lists, horizontal rules, text appearance and color, special characters, importing images, simple tables, and hyperlinks. Lab fee. Offered fall and spring semesters.

BIS 203 Programming for Business **3 hours**

Emphasizes program coding and data structures; includes terminology, flow charting, and pseudocoding. Prerequisite: CIS 103 or consent of instructor. Lab fee. Offered fall semester.

BIS 211 Introduction to Word Processing **1 hour**

Covers basic text entry, editing, revising, and refining, using word processing features. Emphasis on outlines, reports, and tables. Lab fee. Offered fall and spring semesters.

BIS 221 Intermediate Word Processing Applications	1 hour
Continues study of topics introduced in BIS 211; emphasizes creating and formatting newsletters and complex tables, and on merging documents. Lab fee. Prerequisite: BIS 211 or consent of instructor. Offered spring semester.	
BIS 231 Advanced Word Processing Applications	1 hour
Continues study of topics in BIS 221; emphasizes graphics, macros, and more complex merge applications. Lab fee. Prerequisite: BIS 221. Offered upon sufficient demand.	
BIS 241 Introduction to Spreadsheets	1 hour
Provides students with an introduction to electronic spreadsheets. Focuses on set-up, labels, values, formulas, and cell referencing. Also includes copying, moving, erasing, saving, loading, and editing. Lab fee. Offered fall and spring semesters.	
BIS 251 Intermediate Spreadsheet Applications	1 hour
Continues study of topics introduced in BIS 241. Focuses on spreadsheet enhancements, format and edit commands, building templates, and using functions. Lab fee. Prerequisite: BIS 241 or consent of instructor. Offered fall and spring semesters.	
BIS 261 Introduction to Presentation Graphics	1 hour
Concentrates on creating effective graphic presentations, using computer presentation software. Emphasis on creating, editing, enhancing, and refining presentations. Lab fee. Offered fall and spring semesters.	
BIS 271 Introduction to Databases	1 hour
Introduces students to electronic databases and database management. Focuses on planning and creating a database; designing and analyzing tables; adding, changing, and deleting information; and creating reports. Lab fee. Offered fall and spring semesters.	
BIS 281 Intermediate Database Applications	1 hour
Continues study of topics introduced in BIS 271. Emphasizes controlling data input, using advanced queries, enforcing referential integrity, and creating custom forms and reports. Lab fee. Prerequisite: BIS 271 or consent of instructor. Offered spring semester.	
BIS 291-3 Special Topics	1-3 hours
Courses offered to meet special needs of students.	
BIS 353 Business Information Systems	3 hours
Explores the way information technology is used to support decision-making in organizations; focuses on the role of properly managed information in the attainment of organizational goals and objectives. Offered fall semester.	
BIS 391-3 Advanced Topics	1-3 hours
Courses offered to meet special needs of students.	

BUSINESS

BUS 273 Business Statistics (same as MTH 273)	3 hours
Focuses on collection, analysis, and presentation of business data; includes the study of averages, dispersion, sampling, reliability, index numbers, time series, and simple correlation. Prerequisite: Grade of C or better in MTH 143. Offered fall semester; summer term, odd years.	
BUS 291-3 Special Topics	1-3 hours
Courses offered to meet special needs of students.	
BUS 303 Business Communications	3 hours
Focuses on the preparation of business correspondence. A business level of vocabulary and communication skills is stressed. Emphasizes written, oral, and employment communications. Prerequisites: BIS 211, 261, and ENG 106. Lab fee. Offered fall and spring semesters.	
BUS 333 Applied Calculus (same as MTH 333)	3 hours
Provides an intuitive approach to differential and integral calculus with emphasis on application to business. Designed primarily for business administration majors, this course will not fulfill requirements for mathematics majors and may not be taken by students who have earned credit for MTH 185. Prerequisite: Grade of C or better in MTH 143. Offered spring semester.	
BUS 363 Business Law	3 hours
Introduces students to the legal and social environment of business; focuses on the fundamentals of law pertaining to contracts, the uniform commercial code, negotiable instruments, secured transactions, agency and employment, antitrust, and real property. Prerequisite: Junior standing. Offered fall semester.	
BUS 391-3 Advanced Topics	1-3 hours
Courses offered to meet special needs of students.	

- BUS 413 Business Internship** 3 hours
Provides opportunities for supervised experience in business. Prerequisites: Admission to business department and consent of instructor. Offered as needed.
- BUS 491-3 Advanced Topics** 1-3 hours
Courses offered to meet special needs of students. Prerequisites: Junior or senior standing and consent of instructor.
- BUS 499 Business Strategy** 3 hours
Serves as a capstone course designed to integrate a student's knowledge of accounting, economics, finance, management, and marketing to solve problems and develop alternative strategies for various types of organizations. Prerequisites: Completion of all Basic Major Courses, senior standing, and acceptance by the Business Department as a major. Offered spring semester.

ECONOMICS

- ECO 213 Macroeconomics** 3 hours
Introduces students to macroeconomics; emphasizes national income accounting, national income determination, and money and banking economic growth. Offered fall semester.
- ECO 223 Microeconomics** 3 hours
Introduces students to microeconomics; emphasizes price determination, distribution of income, and international economics. Prerequisite: ECO 213 recommended, but not required. Offered spring semester.
- ECO 291-3 Special Topics** 1-3 hours
Courses offered to meet special needs of students.
- ECO 343 Money and Banking** (same as FIN 343) 3 hours
Presents the history and present characteristics of money and banking. Examines financial institutions, central banking, macroeconomic theory, monetary and fiscal policies, and international trade and finance. Prerequisites: ECO 213, 223. Offered fall semester.
- ECO 363 International Trade and Finance** (same as FIN 363) 3 hours
Examines the economic relationships among nations and the implications of such relationships for domestic economic activity and policies. Covers international trade theories, balance of payments, protectionism, foreign exchange, and the role of international institutions and international arrangements such as the International Monetary Fund, economic unions, and cartels. Prerequisite: ECO 343. Offered fall semester, odd years.
- ECO 391-3 Advanced Topics** 1-3 hours
Courses offered to meet special needs of students.
- ECO 413 Internship** 3 hours
Provides opportunities for supervised experience in economics. Prerequisites: Admission to business department and consent of instructor. Offered as needed.
- ECO 491-3 Advanced Topics** 1-3 hours
Courses offered to meet special needs of students. Prerequisites: ECO 213, 223.

FINANCE

- FIN 291-3 Special Topics** 1-3 hours
Courses offered to meet special needs of students.
- FIN 323 Principles of Finance** 3 hours
Introduces students to business finance. Emphasizes the time value of money, ratio analysis, capital management, and financial planning. Prerequisite: ACC 263. Offered fall and spring semesters.
- FIN 343 Money and Banking** (same as ECO 343) 3 hours
Presents the history and present characteristics of money and banking. Examines financial institutions, central banking, macroeconomic theory, monetary and fiscal policies, and international trade and finance. Prerequisites: ECO 213, 223. Offered fall semester.
- FIN 363 International Trade and Finance** (same as ECO 363) 3 hours
Examines the economic relationships among nations and the implications of such relationships for domestic economic activity and policies. Covers international trade theories, balance of payments, protectionism, foreign exchange, and the role of international institutions and international arrangements such as the International Monetary Fund, economic unions, and cartels. Prerequisite: FIN 343. Offered fall semester, odd years.
- FIN 391-3 Advanced Topics** 1-3 hours
Courses offered to meet special needs of students.
- FIN 413 Internship** 3 hours
Provides opportunities for supervised experience in finance. Prerequisites: Admission to business department and consent of instructor. Offered as needed.

- FIN 443 Principles of Investments** 3 hours
Studies personal and business investments. Focuses on tools for analyzing and making rational investment decisions. Includes the environment of investing, markets, types of securities, information sources, tax effects and risk. Prerequisite: FIN 323. Offered spring semester, even years.
- FIN 463 Corporate Finance** 3 hours
Explores financial environment, financial analysis and control, working capital management, capital budgeting, and capital structure decisions. Prerequisite: FIN 323. Offered spring semester, odd years.
- FIN 491-3 Advanced Topics** 1-3 hours
Courses offered to meet special needs of students. Prerequisites: FIN 323 and junior or senior standing.

MANAGEMENT

- MAN 243 Principles of Business Management** 3 hours
Introduces students to organizational behavior and management principles. Focuses on the processes used to manage effectively with an emphasis on behavioral implications. Examines the functions of planning, organizing, leading, and controlling. Prerequisite: Sophomore standing or consent of instructor. Offered fall semester.
- MAN 291-3 Special Topics** 1-3 hours
Courses offered to meet special needs of students.
- MAN 323 Organizational Behavior** 3 hours
Presents concepts and theories of the behavioral sciences as they apply to theory and practice of management. Focuses on human behavior in organizational settings; the organization's effect on employee perceptions, feelings, and actions; and the employee's effect on the organization. Emphasizes the attainment of organizational goals through the effective utilization of people. Prerequisite: MAN 243. Offered fall semester.
- MAN 353 Production/Operations Management** 3 hours
Focuses on production and operations management with emphasis on resource planning for manufacturing. Includes an overview of manufacturing principles: quality control, capacity planning, and production standards. Prerequisites: BUS 273, MAN 243. Offered spring semester.
- MAN 391-3 Advanced Topics** 1-3 hours
Courses offered to meet special needs of students.
- MAN 413 Internship** 3 hours
Provides opportunities for supervised experience in management. Prerequisites: Admission to business department and consent of instructor. Offered as needed.
- MAN 433 Human Resources Management** 3 hours
Presents the principles used to effectively utilize human resources in organizations. Studies the historical, psychological, legal, and social development of personnel management practices. Analyzes recruitment, selection, development, evaluation, compensation, and union-management relations. Prerequisite: MAN 243. Offered spring semester.
- MAN 463 Retail Business Management** 3 hours
Deals with planning, organization, purchasing, pricing, advertising, and budget control. Prerequisite: MAN 243. Offered fall semester.
- MAN 491-3 Advanced Topics** 1-3 hours
Courses offered to meet special needs of students. Prerequisites: MAN 243 and junior standing.

MARKETING

- MKT 291-3 Special Topics** 1-3 hours
Courses offered to meet special needs of students.
- MKT 313 Principles of Marketing** 3 hours
Provides an introduction to marketing. Presents a basic overview of marketing principles and concepts, strategic planning, and the operation of the marketing system. Prerequisite: Sophomore standing; MAN 243 is recommended, but not required. Offered fall and spring semesters.
- MKT 323 Principles of Advertising** 3 hours
Examines the background and social implications of advertising. Includes organization of advertising departments and agencies as related to mass media and marketing, creation of advertisements, media planning, and selection. Some laboratory work done in conjunction with campus and other media. Prerequisite: MKT 313. Offered fall semester.
- MKT 343 Sales Management** 3 hours
Focuses on the principles and techniques of professional selling. Emphasizes systematic preparation and

planning, development of decision skills, interpersonal relationships, and management of the job effort. Prerequisite: MAN 243. Offered spring semester.

MKT 391-3 Advanced Topics **1-3 hours**
Courses offered to meet special needs of students.

MKT 413 Internship **3 hours**
Provides opportunities for supervised experience in marketing. Prerequisites: Admission to business department and consent of instructor. Offered as needed.

MKT 483 Marketing Research **3 hours**
Examines marketing research tools, methodology, and functions. Focuses on environmental factors affecting consumer demand, marketing program effectiveness, and effects of competitors' strategies. Prerequisites: BUS 273, FIN 323, MKT 323. Offered spring semester.

MKT 491-3 Advanced Topics **1-3 hours**
Courses offered to meet special needs of students. Prerequisites: MKT 313 and junior or senior standing.

COMPUTER INFORMATION SYSTEMS

Bachelor of Science Degree: *Major*—Computer Information Systems
Minor: Computer Information Systems

Statement of Mission

The mission of the Computer Information Systems department is to provide an excellent education in the field of computers and technology in a distinctively Christian environment, thus preparing students for both personal and career effectiveness.

Goals

The goals of the Computer Information Systems department are to help a student develop professional skills and personal values that prepare them for further study in the fields of computers and technology and make them marketable in a computer- or technology-related field. These are accomplished through classroom instruction, professional modeling, individual projects, and an extensive program of internships providing real-world, hands-on experience based on a broad set of foundational skills from the CIS field, including: hardware, software, programming, database, networking, and web design.

Objectives for the CIS Major

- The CIS major is designed to provide students enrolled in it with the opportunity to
- 1) Install, use, and support hardware and software in accordance with IT professional standards
 - 2) Create original, meaningful programs in accordance with IT professional standards
 - 3) Design and support database applications in accordance with IT professional standards
 - 4) Design, implement, and administrate networks in accordance with IT professional standards
 - 5) Design, create, and support websites in accordance with IT professional standards
 - 6) Acquire professional IT experience through internships
 - 7) Demonstrate commitment to ethical professional conduct

Requirements for BS Degree with Major in Computer Information Systems

- 1) Complete the campuswide General Education Requirements and the Graduation Requirements (see **Academic Policies** for both), considering the following recommendations:
 - a) PHL 253 is preferred to *partially* fulfill the General Education option requirement.
 - b) ART 113 is preferred to *partially* fulfill the General Education fine arts requirement.
- 2) Pass each course in the major course requirements with a grade of C or better.

Major Course Requirements: 51 hours

CIS 103	Intro to Computers	CIS 353	Operating Systems
CIS 123	Web Design	CIS 373	Networking
CIS 203	Programming Fundamentals	CIS 383	Internal Internship
CIS 283	PC Hardware	CIS 403	Database Administration
CIS 303	Program Design	CIS 413	Computer Architecture
CIS 313	Database Management	CIS 473	Advanced Network Administration
CIS 323	Systems Analysis & Design	CIS 483	External Internship
CIS 333	Web Development	CIS 489	Information Technology Seminar

Controlled Electives: To complete the Major Course Requirements, choose three of the BIS one-hour applications courses; at least one database course and one web page design course are preferred.

Requirements for Minor

A grade of C or better is required in all courses in a minor.

Computer Information Systems. . . . 18 hours—CIS 103, 203, 283; plus 3 hours of BIS one-hour applications courses and 6 hours of CIS electives

Course Offerings

For additional choices, see *Business Information Systems (BIS)* courses under the Business Department, above, especially the one-hour applications courses. The computer graphics courses are located in the Art Department.

CIS 103 Introduction to Computers **3 hours**
Provides an overview of the computer industry, history, and terminology, with emphasis on the four major areas of the personal computer: input, output, storage, and processing. Includes an introduction to current software. Lab fee. Offered fall semester.

CIS 123 Web Design **3 hours**
Emphasizes website architecture, layout structure, template development, documentation, and form development. Uses style sheets to organize and present page content. Focuses on client-side scripting. Lab fee. Prerequisite: CIS 103 and BIS 203, or consent of instructor. Offered spring semester.

CIS 203 Programming Fundamentals **3 hours**
Emphasizes program coding and data structures; includes terminology, flow charting, and pseudocoding. Lab fee. Prerequisite: CIS 103 or consent of instructor. Offered fall semester.

CIS 283 PC Hardware **3 hours**
Focuses on hands-on assembly and troubleshooting of computers. Includes research of current topics. Lab fee. Prerequisite: CIS 103 or consent of instructor. Offered fall semester.

CIS 291-3 Special Topics **1-3 hours**
A course to meet special needs of students. Prerequisite: Consent of instructor.

CIS 303 Program Design **3 hours**
Examines systems design, concepts, and techniques for the development of computer programs. Lab fee. Prerequisite: CIS 203. Offered spring semester.

CIS 313 Database Management **3 hours**
Provides instruction in database design techniques: focuses on data models, structured query language (SQL), and database administration. Lab fee. Prerequisites: BIS 281 and CIS 203. Offered fall semester.

CIS 316 Visual Basic **3 hours**
Applies Visual Basic to the development of computer applications; emphasizes designing and managing graphical-user interfaces, procedures, file management, debugging, and testing. Lab fee. Prerequisite: CIS 303.

CIS 323 Systems Analysis and Design **3 hours**
Focuses on the proper methods and techniques for analyzing and designing systems to meet various business needs. Lab fee. Prerequisite: CIS 353 or consent of instructor. Offered spring semester, even years.

CIS 326 Programming in C++ **3 hours**
Applies the C programming language to programming problems; focuses on its I-O functions, array handling, pointers, and structure data types. Lab fee. Prerequisite: CIS 303.

CIS 333 Web Development **3 hours**
Integrates skills learned in previous courses and presents dynamic web programming using server-side programming techniques such as PHP and ASP. Focuses on the integration of databases into a web site. Lab fee. Prerequisites: CIS 123, 203, 313, or consent of instructor. Offered spring semester, odd years.

CIS 353 Operating Systems	3 hours
Presents concepts and design of operating systems with the appropriate commands, utilities, and system calls to manipulate those operating systems. Prerequisite: CIS 283. Offered fall semester.	
CIS 366 Java	3 hours
Applies the Java programming language to programming problems. Lab fee. Prerequisite: CIS 303.	
CIS 373 Networking	3 hours
Introduces data communication concepts, hardware, and software; includes both local-area and wide-area networking concepts. Lab fee. Prerequisite: CIS 283. Offered spring semester.	
CIS 383 Internal Internship	3 hours
Provides students with the opportunity to design solutions to an on-campus computer-related project. Each student will be required to present a project summary to a panel of knowledgeable persons. Requires 120 hours of work. Prerequisite: Junior standing. Offered fall and spring semesters.	
CIS 391-3 Advanced Topics	1-3 hours
A course to meet special needs of students. Prerequisite: Consent of instructor.	
CIS 403 Database Administration	3 hours
Examines the database administrator's responsibilities: monitoring and tuning of the database and its reliability and security in a client/server environment. Lab fee. Prerequisite: CIS 313. Offered fall semester, odd years.	
CIS 413 Computer Architecture	3 hours
Introduces the functional organization, sequential operation, machine-instruction architectures, and assembly language of the digital computer. Examines the internal computer operations performed during program executions. Prerequisite: CIS 353. Offered fall semester, even years.	
CIS 473 Advanced Network Administration	3 hours
An in-depth continuation of CIS 373. Lab fee. Prerequisite: CIS 373. Offered fall semester.	
CIS 483 External Internship	3 hours
Provides students with opportunities to interview with ICIS Department-approved prospective companies to gain work experience in the computer field. Requires 120 hours of work. Prerequisites: CIS 383 and senior standing. Offered spring semester.	
CIS 489 Information Technology Seminar	3 hours
Serves as a capstone course that focuses on relevant current topics and provides further study of technology management. Prerequisite: Senior standing. Offered spring semester.	
CIS 491-3 Advanced Topics	1-3 hours
A course to meet special needs of students. Prerequisite: Consent of instructor.	
