

Melvin D. and Valorie G. Booth College of Business and Professional Studies

Dr. Thomas Billesbach, Dean

- Department of Accounting, Economics and Finance
- Department of Agriculture
- Department of Computer Science/Information Systems
- Department of Marketing and Management
- Department of Mass Communication

Melvin D. and Valorie G. Booth College of Business and Professional Studies

Dean: Thomas Billesbach

Centers: Small Business Development

The Melvin D. and Valorie G. Booth College of Business and Professional Studies includes the Departments of Accounting, Economics and Finance; Agriculture; Computer Science/Information Systems; Marketing and Management; and Mass Communication.

Statement of Mission

The overall mission of the Melvin D. and Valorie G. Booth College of Business and Professional Studies is to continue to expand and improve access to learning by developing partnerships with men and women so that, together, we can acquire appropriate knowledge and skills, apply those knowledges and skills to new situations, and to act accordingly. As a result of that mission, we prepare men and women for leadership careers in business, industry, education, government, broadcasting, publications, news reporting and public service. Four major areas of education are involved in the development process:

1. A foundation in general education in full recognition that as future organizational leaders, students should have a firm understanding of the relationships to social, economic, political and cultural trends.
2. A professional component that provides a broad understanding of the fundamentals through which a particular discipline operates.
3. An opportunity to specialize in a discipline relevant to a chosen career.
4. An understanding of trends in science and technology and how those areas influence social, economic, political and cultural trends.

Important objectives of the Melvin D. and Valorie G. Booth College of Business and Professional Studies are:

1. To provide professional assistance to public and private organizations throughout our region.
2. To engage in applied research activities with a particular emphasis on meeting the needs of public and private organizations within our region. Applied research is emphasized because of the needs of the State, the environment in which the college exists, the interests of the faculty and the mission of the University.

Continuing opportunities are made available to students to participate in meetings with business, industrial and public service leaders, as well as outstanding professionals from various disciplines.

Participation in student organizations as well as business and government internships provide realistic opportunities for students to relate to future leadership roles.

Programs in the Melvin D. and Valorie G. Booth College of Business and Professional Studies offer courses leading to the Bachelor of Arts, Bachelor of Science, Bachelor of Science in Education, Master of Science in Education, Master of Science in Agriculture, Master of Science in Applied Computer Science, Master of Business Administration, Master of Business Administration with Accounting Emphasis, Master of Business Administration with Information Technology Management emphasis, Master of Business Administration with Health Management Emphasis, Master of Business Administration with Quality Emphasis and Master of Business Administration with Agricultural Economics Emphasis degrees.

Web-based programs leading to a Bachelor of Science with a major in accounting or management are currently available. Additional programs are being developed.

Accreditation

Northwest Missouri State University, through its Melvin D. and Valorie G. Booth College of Business and Professional Studies, is nationally accredited by the Association of Collegiate Business Schools and Programs (ACBSP) for the offering of the following degree programs: (1) at the graduate level, for the Master of Business Administration (M.B.A.) degree; (2) at the undergraduate level, for the Bachelor of Science (B.S.) degree with majors in accounting, business economics, finance, management information systems, office information systems, business education, business management, international business and marketing. These accredited programs are marked with a pound sign (#) in the departmental listings. The B.S. in Education degrees in Agricultural Education and Business Education are accredited by the National Council for Accreditation of Teacher Education and the Department of Elementary and Secondary Education.

Business Transfer Requirements

Any community college student or student from another baccalaureate degree granting institution planning to transfer to Northwest Missouri State University and major in one of the business programs should place heavy emphasis on liberal arts courses during the first two years of study. However, many of these students will wish to include some business courses in their program and should select those courses from the following:

- College Algebra (3 semester hours)
- Statistics (3 semester hours)
- Computers and Information Technology (3 semester hours)
- Principles of Accounting (6 semester hours)
- Managerial Communication (3 semester hours)
- Macroeconomics (3 semester hours)
- Microeconomics (3 semester hours)
- Business Law (3 semester hours)
- Fundamentals of Finance (3 semester hours)
- Principles of Management (3 semester hours)
- Principles of Marketing (3 semester hours)

Any equivalent Northwest business course taken at another regionally-accredited institution will transfer, providing that at least 60 percent of the comprehensive major is completed at Northwest. Students minoring in general business must also complete 60 percent of those requirements at Northwest.

Special articulation agreements have been made with community colleges for the transfer of associate of applied science degrees. Further information may be requested from the Office of Admissions or the dean's office.

Common Professional Component Requirements for Accredited Business Programs

To ensure a common professional component among the accredited business programs, all students majoring in accounting, business economics, business education, business management, finance, international business, management information systems, marketing or office information systems are required to fulfill the following professional component requirements.

All students majoring in Public Accounting, Private Accounting, Business Economics, Business Management, Financial Services, Financial Computing, Corporate Finance, Financial Management, International Business or Marketing must earn a minimum grade of "C" in each Common Professional Component and required course.

General Education Courses	Semester Hours
*Math 17-114 General Statistics I	3
*Econ 52-150 General Economics I (Macroeconomics)	3
Total General Education Requirements	6
Directed Institutional Requirement	
CSIS 44-130 Computers and Information Technology	3
Non-business Courses	
Math 17-118 College Algebra	3
Econ 52-151 General Economics II (Microeconomics)	3
Total Non-business Requirements	6
Business Courses	
Acct 51-201 Accounting I	3
Acct 51-202 Accounting II	3
Fin 53-311 Business Law I	3
Fin 53-324 Fundamentals of Business Finance	3
Mgmt 54-310 Managerial Communication	3
Mgmt 54-313 Principles of Management	3
Mgmt 54-315 Operations Management	3
Mgmt 54-417 Organizational Policy and Decision-Making	3
Mkt 55-330 Principles of Marketing	3
Mkt 55-438 International Business	3
CSIS 44-317 Management Information Systems	3
Total Business Requirements	33

*These courses fulfill General Education requirements and are not counted toward the major requirements.

Courses listed under the appropriate major must be completed in addition to the above common professional component requirements.

Non-business students majoring in computer science, interactive digital media, or economics are not required to fulfill the common professional component requirements.

Minors are available in business education, computer science, economics, general business, agricultural science, agronomy, commercial agriculture, horticulture, broadcasting, journalism, interactive digital media, computer networking, database management systems, computer applications and systems management.

Course Description

**Melvin D. and Valorie G.
Booth College of
Business and Professional
Studies / 76**

101 Freshman Seminar (1 hour)

Freshman seminar is designed to introduce students to Northwest Missouri State University.

Topics of exploration will include adjustment to University life, skills necessary to make the most of the University experience, General Education requirements, academic programs and advisement, career exploration, campus and community resources, taking advantage of cultural and extracurricular events, and assuming responsibility for one's own University experience.

Department of Accounting / 51, Economics / 52 and Finance / 53

Chairperson: J. Patrick McLaughlin

Faculty: John Baker, Ben Collier, Doni Fry, Mark Jelavich, Alfred B. Kelly, V. C. Kharadia, Stephen Ludwig, Michael Northup, Michelle Nance, Jason White, Michael Wilson, Rahl Wood, Roger Woods

Accreditation

All degree programs in the Department of Accounting, Economics and Finance are ACBSP accredited (except the non-business major in economics).

Statement of Mission

The mission of the Department of Accounting, Economics and Finance is to provide students with the knowledge and skills necessary to successfully compete in tomorrow's business environment in the areas of public accounting, managerial accounting, financial services, financial computing and corporate finance, economics and graduate studies. Lifelong learning is stressed and encouraged.

This mission is to be accomplished through the expertise of a knowledgeable faculty, by technological integration, by the stimulation of professional growth in students, by applied faculty and student research projects that serve the region, and by preparing students for professional licensures in the professions of accounting, finance and law.

The mission is also aligned with the University, college and departmental Educational Key Quality Indicators as the department is committed to the goal of continuous quality improvement.

Advanced Standing Requirement

Students majoring in Public Accounting, Private Accounting, Business Economics, Financial Services, Financial Computing, Corporate Finance or Financial Management must earn a "C" or better in each Common Professional Component course (as previously listed on page 233) as well as each of the courses in their major.

Accounting / 51

MAJOR

Comprehensive Major in Accounting: B.S.—No Minor Required

Students choosing a Comprehensive Major in Accounting must take the common professional component courses previously outlined on page 233 plus receive a minimum grade of “C” in each of the major courses listed below for the public accounting track or private industry track.

The public accounting track is designed to prepare students for careers in public accounting and/or for taking the examination to become a Certified Public Accountant. Students wishing to take the CPA examination in Missouri, Nebraska, Iowa and Kansas must have 150 credit hours. The student should complete the public accounting track and continue with an additional 26 hours of coursework to be eligible to sit for the CPA examination. Most students will choose to take the MBA-accounting emphasis. (See Northwest Missouri State University *Graduate Catalog* and your advisor.)

The private industry track is designed to prepare students for careers in management accounting. With the addition of the course Mgmt 54-316 Organizational Behavior and Theory as an elective, the private industry track is designed to prepare students for taking the examination to become a Certified Management Accountant.

Public Accounting Track

Acct 51-301 Cost Accounting	3
Acct 51-303 Tax Accounting I	3
Acct 51-304 Tax Accounting II	3
Acct 51-306 Intermediate Accounting I	3
Acct 51-307 Intermediate Accounting II	3
Acct 51-308 Accounting Information Systems	3
Acct 51-401 Intermediate Accounting III	3
Acct 51-403 Advanced Accounting	3
Acct 51-404 Auditing	3
Fin 53-312 Business Law II	3

Total Public Accounting Track 30

Private Industry Track

Acct 51-301 Cost Accounting	3
Acct 51-303 Tax Accounting I	3
Acct 51-304 Tax Accounting II	3
Acct 51-306 Intermediate Accounting I	3
Acct 51-307 Intermediate Accounting II	3
Acct 51-308 Accounting Information Systems	3
Acct 51-402 Advanced Cost Accounting	3
Acct 51-403 Advanced Accounting	3
Acct 51-404 Auditing	3
Mgmt 54-316 Organizational Behavior and Theory	3

Total Private Industry Track 30

Economics / 52

Economics offers programs leading to the Bachelor of Science degree. Students may pursue a Comprehensive Major in Business Economics or a Major in Economics with selection of a minor area. Additionally, students who major in another discipline may complete a Minor in Economics. The major objective of the economics program is to equip students with the principles and methods of sound economic theory and the application of economic theory so that they are prepared for employment in the private or public sectors and for graduate study.

The economics courses also perform several service functions: (a) it provides students within the Melvin D. and Valorie G. Booth College of Business and Professional Studies with economic knowledge and skills needed for pursuit of successful careers in private business or public service and (b) through general education courses, it offers all students at the University an opportunity for economic education so that they become well-informed consumers and citizens who understand economic issues and policies.

MAJORS

Comprehensive Major in Business Economics: B.S.—No Minor Required

Students choosing a Comprehensive Major in Business Economics must take the common professional component courses previously outlined on page 233 plus fulfill the following major requirements:

Required Courses	Semester Hours
Econ 52-351 Macroeconomic Theory	3
Econ 52-352 Money, Credit, and Banking	3
Econ 52-353 Microeconomic Theory	3
Econ 52-450 International Economics	3
Econ 52-458 Forecasting Business Conditions	3
Electives	
Choose six hours from advisor-approved economics or business electives	6
Total Major Requirements	21

Major in Economics: B.S.—Minor Required

Students choosing a Major in Economics must take the following courses:

Directed General Education Course	Semester Hours
**Math 17-114 General Statistics I	3
Required Courses	
Math 17-118 College Algebra	3
*Econ 52-150 General Economics I (Macroeconomics)	3
Econ 52-151 General Economics II (Microeconomics)	3
Econ 52-351 Macroeconomic Theory	3
Econ 52-352 Money, Credit and Banking	3
Econ 52-353 Microeconomic Theory	3
Econ 52-450 International Economics	3
Electives (12 hours minimum) from the Directed Concentration areas below	12
Directed Concentration: Upper Division courses	
Economics courses (minimum of six hours)	

Advisor-approved electives from following areas:

- Mathematics (Calculus or more advanced courses)
- Finance
- Marketing
- Management
- Political Science

Total Major Requirements 33

NOTE: A business minor is encouraged, but students should be careful not to double count minor courses and elective courses in the directed concentration. See your advisor.

**This course fulfills a General Education requirement and is not counted toward the major requirements.

*Cannot be used to fulfill any General Education requirement.

MINORS

Minor in Economics

Students choosing a Minor in Economics must take the following courses:

Required Courses	Semester Hours
*Econ 52-150 General Economics I (Macroeconomics)	3
Econ 52-151 General Economics II (Microeconomics)	3
Choose 12 hours of upper division economics electives:	12
Total Minor Requirements	18

*Cannot be used to fulfill any General Education requirement.

Finance / 53

MAJOR

Comprehensive Major in Finance: B.S.—No Minor Required

Finance directly affects the lives and well-being of every person and organization whether financial or non-financial, public or private, profit or non-profit. These individuals and organizations earn or raise money and spend or invest money. The processes and decision-making methods to carry out these activities are the purview of finance which has been defined as the art and science of managing money. The study of finance is concerned with the processes, institutions, markets and instruments involved in the transfer of money within and between individuals, businesses and governments. The major areas of finance can be divided into four broad categories: financial services, corporate finance, insurance and real estate. Financial services is concerned with the design and delivery of advice and financial products. Corporate finance is concerned with the duties of the financial managers within the business firm. Insurance and risk management deal with the various ways to handle risk and how to protect assets through appropriate insurance coverage. The goal of the finance faculty is to prepare graduates for all of the categories in the world of finance.

The financial services option is designed to prepare students for the financial services industry. This comprises the professions of brokerage, insurance, real estate and banking. In this business sector the students will need to understand the products customers purchase and how to relate this information to the customer.

ACBSP accredited program

The financial computing option will bring together course work in both finance and computer science. This area of finance lends itself to the use of many financial decision-making models which are constructed and manipulated with computer technology. This option will lead to employment where there is a need to process data for financial decision making.

The corporate finance option will provide the student with the tools to work within the corporate structure under the chief financial officer where accounting and financial information is used to make corporate decisions. The student will be able to communicate with both the financial and accounting personnel and identify the useful accounting information and financial models for decision making.

The financial management option will permit students to prepare for a position in management rather than a staff position in finance under the corporate treasurer. This option blends the knowledge of finance and management so the student will be prepared to make management decisions that require an understanding of finance. Almost all decisions in business require a balance of interests from all functional business areas using the decision-making process and the tools of finance to guide the corporation to the achievement of its goal.

Students choosing a Comprehensive Major in Finance must take the common professional component courses previously outlined on page 230 plus fulfill the following major requirements:

Option One: Financial Services, 24 hours

Required Courses	Semester Hours
Acct 51-303 Tax Accounting I	3
Econ 52-352 Money, Credit, and Banking	3
Fin 53-320 Insurance and Risk	3
Fin 53-325 Investment Principles	3
Fin 53-327 Intermediate Financial Management	3
Fin 53-420 Financial Institutions	3
Fin 53-421 Selected Cases in Finance	3
Choose 3 hours from electives	3
Acct 51-304 Tax Accounting II (3)	
Acct 51-408 Managerial Accounting (3)	
Fin 53-326 Investment Management (3)	
Fin 53-422 Real Estate Management (3)	
Total Major Requirements	24

Option Two: Financial Computing, 24 hours

Required Courses	Semester Hours
Fin 53-325 Investment Principles	3
Fin 53-327 Intermediate Financial Management	3
Fin 53-420 Financial Institutions	3
Fin 53-421 Selected Cases in Finance	3
CSIS 44-140 Visual Basic Application Programming	3
CSIS 44-211 Spreadsheet Applications	1
CSIS 44-212 Advanced Spreadsheets and Charting	1
CSIS 44-346 Database Applications	1
CSIS 44-333 Multimedia and Web Development	3
Approved electives in Finance or Computer Science	3
Total Major Requirements	24

Option Three: Corporate Finance, 24 hours

Required Courses	Semester Hours
Fin 53-325 Investment Principles	3
Fin 53-327 Intermediate Financial Management	3
Fin 53-420 Financial Institutions	3
Fin 53-421 Selected Cases in Finance	3
Acct 51-301 Cost Accounting	3
Acct 51-306 Intermediate Accounting I	3
Acct 51-402 Advanced Cost Accounting	3
Approved electives in Finance or Accounting	3
Total Major Requirements	24

Option Four: Financial Management, 24 hours

Required Courses	Semester Hours
Fin 53-325 Investment Principles	3
Fin 53-327 Intermediate Financial Management	3
Fin 53-420 Financial Institutions	3
Fin 53-421 Selected Cases in Finance	3
Mgmt 54-314 Human Resource Management	3
Mgmt 54-316 Organizational Behavior and Theory	3
Mgmt 54-318 Entrepreneurship OR Mgmt 54-320 Negotiations	3
Approved electives in Finance or Management	3
Total Major Requirements	24

Course Descriptions

Accounting / 51**201 Accounting I (3 hours)**

A beginning course in the principles and theory of accounting. (F, S, SS)

202 Accounting II (3 hours)

A continuation of Acct 201, with the partnership and corporation as forms of business organizations emphasized. Prerequisite: Acct 51-201 with a minimum grade of "C." (F, S, SS)

301 Cost Accounting (3 hours)

An introductory course in the principles and theory of cost accounting, with an emphasis on managerial decision support. The focus is on deriving accounting information from various costing systems, and preparation, interpretation, and analysis of various reports, including use of spreadsheets. Prerequisite: 51-202 with a minimum grade of "C." (F, S)

303 Tax Accounting I (3 hours)

A study of Federal income tax compliance and tax planning for individuals and small businesses. Prerequisite: Acct 51-202 with a minimum grade of "C." (F, S, SS)

304 Tax Accounting II (3 hours)

A study of Federal income tax compliance and planning for partnerships, corporations, S corporations, estates and trusts. Prerequisites: Acct 51-202 and 303 with a minimum grade of "C" in both. (S)

306 Intermediate Accounting I (3 hours)

An in-depth study of accounting procedures followed in the recording and controlling of assets and liabilities. Prerequisite: Acct 51-202 with a minimum grade of "C." (F, S)

307 Intermediate Accounting II (3 hours)

A continuation of Intermediate Accounting I. Topics covered include investments, liabilities, income taxes, pensions, leases, contributed capital and the statement of cash flows. Prerequisite: Acct 51-306 with a minimum grade of "C." (F, S)

308 Accounting Information Systems (3 hours)

This is a course designed to give students a basic understanding of accounting systems, systems design and the organization of accounting data. Prerequisites: Acct 51-306 with a minimum grade of "C" and CSIS 44-130. (S)

401 Intermediate Accounting III (3 hours)

Covers governmental and not-for-profit accounting, partnerships, earnings per share, accounting changes and error correction, and other miscellaneous accounting topics. Prerequisite: Acct 51-306 with a minimum grade of "C." (S)

402 Advanced Cost Accounting (3 hours)

A course in management accounting designed for accounting majors. Emphasis is placed on collection and presentation of accounting information in a manner useful for decision-making, as well as how the electronic spreadsheet helps facilitate this process. Also includes a study of ethical considerations as they relate to managerial accounting. Prerequisite: Acct 51-301 with a minimum grade of "C." (S)

403 Advanced Accounting (3 hours)

Provides a study of consolidated financial statements, and international accounting. Prerequisite: Acct 51-307 with a minimum grade of "C." (F)

404 Auditing (3 hours)

A study of generally accepted auditing standards and procedures. Prerequisite: Acct 51-307 with a minimum grade of "C." (F)

405 Intern in Accounting (1-3 hours)

Students with junior or senior standing who are accounting majors, with the permission of the department chairperson, may enroll in an intern program with an approved business firm. (F, S, SS)

408 Managerial Accounting (3 hours)

A study is made of interpretation of accounting data, and the controlling and planning of business activities through the use of that data. This is a course for non-accounting majors. Prerequisites:

Acct 51-202, Mgmt 54-313, Fin 53-324 and Mkt 55-330. (F, S, SS)

409 Independent Study in Accounting (1-3 hours)

Students with junior or senior standing with an area of concentration in accounting, with the permission of a member of the accounting faculty, may enroll in an independent study in accounting. (F, S, SS)

Economics / 52**130 Survey of Economics (3 hours)**

This course is a one trimester survey of economics. Topics include scarcity and resource allocation; supply and demand; the nature of households and firms, and their interaction in markets; money and banking; gross domestic product determination; and government economic policies. (F, S, SS)

150 General Economics I (3 hours)

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. (F, S, SS)

151 General Economics II (3 hours)

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. (F, S, SS)

351 Macroeconomic Theory (3 hours)

A study of the determination of aggregate income, employment and price level as well as the interactions of the various markets (goods, labor, money, and bonds) within the context of a general equilibrium model. Special emphasis is placed on the microeconomic foundations of macroeconomic theory. Prerequisites: Econ 52-150 and 151. Econ 52-353 recommended. (S)

352 Money, Credit and Banking (3 hours)

A study of the history, theory and practice of money and banking. Commercial banking, central banking and monetary policy are discussed and their impact on the economy is examined within the framework of monetary theory. Prerequisite: Econ 52-150 (F, S)

353 Microeconomic Theory (3 hours)

An analysis of consumer choice, exchange, production and pricing under various market structures in a neoclassical context. Developing the tools of microeconomics and their application to real world situations are strongly emphasized. Prerequisites: Econ 52-150 and 151. (F)

354 Labor Economics (3 hours)

A study of economic theory and evidence related to labor supply and demand; the wage structure within the economy; labor's share of national income; unemployment, human resource development, poverty and labor market discrimination; the economic effects of unions; and other issues related to the employment of human resources and labor-management relations. Prerequisites: Econ 52-150 and 151. (F)

425 Internship in Economics (1-3 hours)

Students who are economics majors may enroll, with the permission of the chairperson, in an intern program with an approved business or government firm. It is recommended the student be in the junior or senior year. (F, S, SS)

450 International Economics (3 hours)

A study of modern theories in international trade and finance and current trends and issues in international economic relations. Prerequisites: Econ 52-150 and 151. (F)

451 Econometrics (3 hours)

Foundations of econometrics. Analysis of linear regression, non-linear regression and computer simulation models. The problems of parameter estimation, verification and the prediction of economic magnitudes are studied. Prerequisites: Econ 52-150 and 151, Math 17-114. (S, odd years)

458 Forecasting Business Conditions (3 hours)

A study of applied economics encompassing measurement, analysis and prediction of business conditions at the national, regional and industrial levels. Prerequisites: Econ 52-150, 151 and Math 17-114 and 118. (S, even years)

459 Independent Study in Economics (1-3 hours)

Offered only by special arrangement and with consent of the instructor. (F, S, SS)

Finance / 53**120 Personal Money Management (3 hours)**

An introduction to the basic principles and practice of successful personal money management. The life cycle of personal financial planning and management will be discussed. (SS)

311 Business Law I (3 hours)

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. (F, S, SS)

312 Business Law II (3 hours)

Fundamental principles of law in relation to business, including agency, negotiable instruments, secured transactions, bankruptcy, partnerships, corporations and other business entities. (F)

320 Insurance and Risk (3 hours)

A study of the principles of insurance, including the various types of insurance coverages such as home, auto, life and health, as well as principles of risk management. (S)

324 Fundamentals of Business Finance (3 hours)

A study of the financial structure of corporations, principles and techniques used in financial analysis and decision-making. Prerequisites: Acct 51-202 and Math 17-118 or consent of instructor. (F, S, SS)

325 Investment Principles (3 hours)

A study of the principles of investment and investment vehicles. Prerequisite: Fin 53-324. (F)

326 Investment Management (3 hours)

A course dealing with portfolio management and valuation theory. Prerequisite: Fin 53-324. (S, odd years)

327 Intermediate Financial Management (3 hours)

An in-depth study of financial theory and practices including such topics as capital structure, dividend policy, capital budgeting, asset pricing and working capital management. Prerequisite: Fin 53-324. (S)

420 Financial Institutions (3 hours)

A course which deals with structure, functions, policies and decision-making within financial institutions. Prerequisites: Fin 53-324. (S)

421 Selected Cases in Finance (3 hours)

An advanced case study course dealing with the management of corporate finance. Prerequisites: Fin 53-327. (F)

422 Real Estate Management (3 hours)

A course designed to integrate the legal, economic and investment perspectives of real estate. The course includes a study of property rights, real estate transactions, real estate markets, real estate investment approaches and investment market valuation. (S, even years)

425 Intern in Finance (1-3 hours)

Students who are finance majors may enroll, with the permission of the chairperson, in an intern program with an approved business firm. This is recommended after completion of the junior year. (F, S, SS)

429 Independent Study in Finance and Insurance (1-3 hours)

Finance majors may, with approval, enroll in an independent study section. The approval must be received from the Department of Accounting, Economics and Finance chairperson and should be received during the term preceding the enrollment. (F, S, SS)

Department of Agriculture / 03

Chairperson: Arley Larson

Faculty: Rod Barr, Harold Brown, Rego Jones, George Kegode, Dennis Padgitt, Jamie Patton, Lurinda Turner, Thomas Zweifel

Statement of Mission

The Department of Agriculture at Northwest Missouri State University supports and enhances the mission of the University. Northwest is a coeducational, primarily residential, regional University offering a broad range of undergraduate and select graduate programs. The University's programs place special emphasis upon agriculture, business, and teacher education, as these professions contribute to the primary service region. In support of this mission, the Department of Agriculture currently offers eight majors, six minors, three master's degrees and a two-year farm operations certificate to complement the high quality, living-learning environment of Northwest for students interested in pursuing careers in agriculture.

DEGREE PROGRAMS

The courses in the Department of Agriculture are chosen with the aim of preparing students to take their place in the many and varied occupations directly or indirectly related to agriculture. It is possible for students to select an area of emphasis in preparation for a particular career field, to prepare for advanced study, to prepare for farming or to enter the teaching field as a teacher of agricultural education.

Majors are currently offered in Agricultural Economics, Agricultural Business, Agronomy, Animal Science, Animal Science (Pre-Veterinary Option), Horticulture, Agricultural Education and Agricultural Science. Students at Northwest can select agricultural minors in Animal Science, Agricultural Science, Commercial Agriculture, Agronomy, Precision Agriculture, and Horticulture. Master's programs are offered leading to the following degrees: Master of Science in Agriculture, Master of Science in Education (Teaching Secondary Agricultural Education) and Master in Business Administration (MBA) with an area in Agricultural Economics.

All faculty members within the Department of Agriculture have earned a Ph.D. or have significant professional experience, and strive for excellence in teaching, scholarly activity, service and student support. The Agriculture department is a leader in applied research programs in alternative crops, marketing research and associated activities.

The Department of Agriculture places special emphasis on creating a climate that is conducive to learning. The faculty possess a genuine concern for the students as well as a high commitment to the educational achievement of their students. The department's goal is to educate students to successfully meet the challenges of a career in agriculture, while instilling a desire and curiosity for lifelong learning.

The department offers an excellent course curriculum for each major, undergraduate research opportunities, internship programs, a wide range of professional and social student organiza-

tions and hands-on experiences in living laboratories to expand students' horizons beyond the classroom.

Agriculture Major Requirements

When a student chooses agriculture as a major, he/she will also choose an area of specialization from those offered. An advisor will then be assigned and the student and advisor will select the courses needed to complete the major requirements. Courses are required for each major, but students may, with permission of the advisor and department chairperson, make substitutions or additions to their program. General requirements for the B.S. degree are found in the "Degree Requirements" section of this catalog.

- All agriculture students are encouraged to take chemistry as part of their general requirements.
- All agriculture majors must attain a score at level 1 or higher on at least two areas of the Measure of Academic Proficiency and Progress (MAPP) test.

DEPARTMENT POLICIES

Requirements for Independent Study and Problems Courses

The independent study and problems courses for each area of specialization permit the student to explore a specific topic in depth. The 400-level course may: (1) use either primary or secondary research data or (2) cover course material the student was unable to schedule prior to the senior year. The 500-level course may use only primary research data or special problems assigned by the instructor.

A student may take no more than three hours of 400-level and three hours of 500-level of these courses during the undergraduate program. The student may not take both a 400- and 500-level of these courses during the same trimester.

The final report must be filed in the Department of Agriculture and the student is responsible for providing that copy.

Credit By Examination

The agriculture courses listed in the course descriptions preceded by an asterisk (*) are available to students for credit by examination. If a student feels he/she can test out of any of these courses, the student should talk to the instructor and the department chairperson.

Majors and Minors for Agriculture Students

Students majoring in agriculture are not permitted to minor in agricultural science. Students seeking multiple majors in agriculture are not permitted to use agricultural science as one of the majors. Students pursuing a major in agricultural science may not pursue a minor offered by the department. When an agriculture minor is chosen in lieu of the collateral field for a major, duplicate courses in the minor must have replacement coursework assigned by the advisor.

Transfer Credit

For Bachelor of Science degree students, only those junior/community college agriculture courses with a lower division equivalent at Northwest will be transferred toward a B.S. degree, with the exception of internships and those courses that are covered by a current articulation agreement and/or clearly marked by the junior/community college as transfer courses. Up to six credits of employment experience, on-the-job training, or internships can be substituted for Northwest's Ag 03-498 Internship.

For Bachelor of Technology degree students completing a one- or two-year program at a junior/ community college and who transfer to Northwest for a B.T. degree, all credits will transfer, either as substitutes for equivalent courses at the freshman and sophomore level or as electives. Bachelor of Technology students must complete a residence major of 24 hours or two residence minors of 15 hours. (See Bachelor of Technology degree requirements on page 77.)

Students selecting a major in agriculture from Northwest Missouri State University must complete a minimum of 24 credit hours in agriculture from Northwest's Department of Agriculture. Exceptions to this policy must be submitted in writing to the department chairperson for review by the Department Curriculum Committee.

MAJORS

Major in Agricultural Economics, 37 hours: B.S.—Collateral Field Required

This area prepares the student for graduate study, government service and private industry.

Required Courses	Semester Hours
*Ag 03-102 Introductory Agricultural Economics	3
Ag 03-150 Animal Science	4
Ag 03-234 Soils	4
Ag 03-302 Agricultural Marketing	3
Ag 03-304 Farm Management and Record Analysis	3
Ag 03-308 Agricultural Applications of Computers OR	
Ag 03-598 Advanced Agricultural Applications of Computers and GPS	3
Ag 03-496 Seminar	1
Ag 03-502 Agricultural Prices	3
Ag 03-505 Agricultural Resource Economics	3
Advisor-approved electives in agriculture	10
Total	37
Collateral Field Courses	
Eng 10-315 Technical Writing	3
*Math 17-114 General Statistics I	3
Math 17-228 Applied Calculus OR	
Math 17-120 Calculus I	4
Econ 52-351 Macroeconomic Theory	3
Econ 52-352 Money, Credit and Banking	3
Econ 52-353 Microeconomic Theory	3
Total	19
Directed General Education Requirement	
Math 17-118 College Algebra	3

*Cannot be used to fulfill any General Education requirement.

NOTE: Grade Requirement: Students must earn a grade of "C" or better in Ag 03-102, Introductory Agricultural Economics. Students may have no more than seven hours of "D" in courses required by this major.

Major in Agricultural Business, 37 hours: B.S.–Collateral Field Required

This program prepares the student to work in agriculturally-related industries. Students receive a solid background in business management principles as well as technical agriculture. It prepares the student for buying, selling and management positions.

Required Courses	Semester Hours
*Ag 03-102 Introductory Agricultural Economics	3
Ag 03-150 Animal Science	4
Ag 03-234 Soils	4
Ag 03-302 Agricultural Marketing OR Mkt 55-330 Principles of Marketing	3
Ag 03-304 Farm Management and Record Analysis	3
Ag 03-309 Basic Applied Futures Marketing	3
Ag 03-407 Agricultural Finance OR Fin 53-324 Fundamentals of Business Finance	3
Ag 03-496 Seminar	1
Ag 03-503 Agricultural Law	3
Advisor-approved electives in agriculture or business	10
Total	37
Collateral Field Courses	
*Math 17-114 General Statistics I	3
Acct 51-201 Accounting I	3
Acct 51-202 Accounting II	3
Fin 53-311 Business Law I	3
Mgmt 54-310 Managerial Communication	3
Mgmt 54-313 Principles of Management	3
Mkt 55-430 Sales and Sales Management	3
Total	21
Directed General Education Requirement	
Math 17-118 College Algebra	3

*Cannot be used to fulfill any General Education requirement.

NOTE: Grade Requirement: Students must earn a grade of “C” or better in Ag 03-102, Introductory Agricultural Economics. Students may have no more than seven hours of “D” in courses required by this major.

Major in Agronomy, 36 hours: B.S.–Minor Required OR Collateral Field Listed Below

The agronomy curriculum provides fundamental training in crop and soil science. Students choosing to major in agronomy will be prepared to serve in crop consulting, environmental protection, land management, soil conservation, seed, fertilizer, agricultural chemical sales or related areas.

Required Courses	Semester Hours
Ag 03-232 Crop Production	3
Ag 03-234 Soils	4
Ag 03-330 Forage Crops	3
Ag 03-336 Crop Physiology	3
Ag 03-381 Applied Entomology	3
Ag 03-440 Introduction to Precision Agriculture	3
Ag 03-496 Seminar	1

Ag 03-530 Soil Formation and Classification	3
Ag 03-532 Soil and Water Conservation	3
Ag 03-534 Plant Breeding	3
Ag 03-434 Weed Science: Ecology and Control OR Ag 03-582 Plant Diseases	3
Ag 03-536 Soil Fertility	3
Advisor-approved electives in agriculture	1
Total	36
Collateral Field Courses (if no minor is selected)	
*Bio 04-112/113 General Botany and Laboratory OR Bio 04-140 General Microbiology	4
Bio 04-350 Genetics OR Bio 04-376 Basic Ecology	3-4
*Math 17-114 General Statistics I	3
Geol 27-360 Environmental Geology OR Geog 32-365 Geographic Information Systems	3-4
Chem 24-242/243 Organic Chemistry and Laboratory OR Chem 24-342/343 Organic Chemistry I and Laboratory	4-5
Eng 10-315 Technical Writing	3
Total	20-23
Directed General Education Requirements	
Ag 03-130 Plant Science	4
Chem 24-112/113 General Chemistry and Laboratory OR Chem 24-114/115 General Chemistry I and Laboratory	4
Math 17-118 College Algebra	3

*Cannot be used to fulfill any General Education requirement.

NOTE: Grade Requirement: Students must earn a grade of "C" or better in Ag 03-130, Plant Science. Students may have no more than seven hours of "D" in courses required by this major.

Major in Animal Science, 38 hours: B.S.—Minor Required OR Collateral Field Listed Below

Courses have been selected to prepare the student in the areas dealing with the fundamentals of livestock production, including selection, breeding, feeding, marketing and general management. In addition to the courses dealing with basic principles, a number of elective courses are offered which give the student the opportunity to choose courses more closely related to his or her special interests.

Required Courses	Semester Hours
Ag 03-150 Animal Science	4
Ag 03-252 Livestock Evaluation	3
Ag 03-309 Applied Futures Marketing	3
Ag 03-352 Meats	3
Ag 03-360 Principles of Animal Nutrition	3
Ag 03-364 Anatomy of Domestic Animals	3
Ag 03-366 Principles of Animal Breeding	3
Ag 03-452 Beef Production	3
Ag 03-454 Pork Production	3
Ag 03-460 Applied Animal Nutrition	3
Ag 03-464 Physiology of Domestic Animals	3

Ag 03-496 Seminar	1
Ag 03-566 Genetics of Livestock Improvement	3
Total	38
Collateral Field Courses (Choose 20 hours)	
Chem 24-242/243 Organic Chemistry and Laboratory	4
Chem 24-362/363 Elementary Biochemistry and Laboratory	4
Acct 51-201 Accounting I	3
Mgmt 54-310 Managerial Communication	3
Mgmt 54-313 Principles of Management	3
*Bio 04-114/115 General Zoology and Laboratory	4
Bio 04-350 Genetics	3
*Math 17-114 General Statistics I	3
Directed General Education Requirements	
Chem 24-112/113 General Chemistry and Laboratory OR	
Chem 24-114/115 General Chemistry I and Laboratory	4
Math 17-118 College Algebra	3

*Cannot be used to fulfill any General Education requirement.

NOTE: Grade Requirement: Students must earn a grade of “C” or better in Ag 03-150, Animal Science. Students may have no more than seven hours of “D” in courses required by this major.

Comprehensive Major in Animal Science (Pre-Veterinary Option), 63 hours: B.S.–No Minor Required

This option is designed to prepare students for the pursuit of a degree in animal science and/or to meet the pre-professional requirements for a school of veterinary medicine.

Required Courses	Semester Hours
Ag 03-150 Animal Science	4
Ag 03-252 Livestock Evaluation	3
Ag 03-352 Meats	3
Ag 03-360 Principles of Animal Nutrition	3
Ag 03-366 Principles of Animal Breeding	3
Ag 03-452 Beef Production	3
Ag 03-454 Pork Production	3
Ag 03-460 Applied Animal Nutrition	3
Ag 03-496 Seminar	1
Ag 03-566 Genetics of Livestock Improvement	3
Bio 04-322 Comparative Anatomy	4
Bio 04-438 Human Physiology	4
Chem 24-116/117 General Chemistry II and Laboratory	5
Chem 24-342/343 Organic Chemistry I and Laboratory	5
Chem 24-362/363 Elementary Biochemistry and Laboratory	4
*Phys 25-110/111 General Physics I and Laboratory	4
*Phys 25-112/113 General Physics II and Laboratory	4
Bio 04-418 Vertebrate Histology	4
Directed General Education Requirements	
Chem 24-114/115 General Chemistry I and Laboratory	4
Math 17-118 College Algebra	3

*Cannot be used to fulfill any General Education requirement.

NOTE: Grade Requirement: Students must earn a grade of “C” or better in Ag 03-150, Animal Science. Students may have no more than seven hours of “D” in courses required by this major.

Major in Horticulture, 37 hours: B.S.—Minor Required OR Collateral Field Listed Below

A major in horticulture provides opportunity for study of vegetable and fruit production, turfgrass management, greenhouse and nursery management, and landscape design.

Required Courses	Semester Hours
*Ag 03-130 Plant Science	4
Ag 03-234 Soils	4
Ag 03-380 Plant Propagation	3
Ag 03-381 Applied Entomology	3
Ag 03-582 Plant Diseases	3
Ag 03-496 Seminar	1
Total	18
Horticulture courses chosen by student and advisor	19

Collateral Field Courses (if minor is not chosen)

Choose 24 hours from the following:

*Geol 27-110/111 General Geology and Laboratory	4
Geol 27-360 Environmental Geology	4
Chem 24-242/243 Organic Chemistry and Laboratory	4
Chem 24-342/343 Organic Chemistry I and Laboratory	5
Chem 24-362/363 Elementary Biochemistry and Laboratory	4
Bio 04-112/113 General Botany and Laboratory	4
Bio 04-140 General Microbiology	4
Bio 04-261 Local Flora	2
Bio 04-350 Genetics	3
Bio 04-376 Basic Ecology	4
Bio 04-412 Plant Anatomy/Morphology	4
Bio 04-430 Plant Physiology	4
Bio 04-575 Methods in Plant Ecology	2
*Math 17-114 General Statistics I	3

Directed General Education Requirement

Math 17-118 College Algebra	3
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See advisor for placement in General Education Science requirements

*Cannot be used to fulfill any General Education requirement.

NOTE: Grade Requirement: Students must earn a grade of “C” or better in Ag 03-130, Plant Science. Students may have no more than seven hours of “D” in courses required by this major.

Comprehensive Major in Agricultural Education, 59 hours: B.S.Ed., Secondary Program—No Minor Required (Certifies Grades 9-12)

The Major in Agricultural Education is designed to prepare teachers of agriculture for the secondary and adult levels in compliance with state certification requirements.

Required Courses	Semester Hours
**Ag 03-102 Introductory Agricultural Economics	3
Ag 03-112 Agricultural Mechanics	4
**Ag 03-130 Plant Science	4
Ag 03-150 Animal Science	4
Ag 03-234 Soils	4

Ag 03-304 Farm Management and Record Analysis	3
Ag 03-496 Seminar	1
Student must take two of the following:	
Ag 03-232 Crop Production	3
Ag 03-385 Greenhouse Crop Production	3
Horticulture elective	3
Advisor-approved electives in agriculture	16
Total	45
Required Courses in Agricultural Education	
Ag 03-320 Foundations of Agricultural Education	3
Ag 03-420 Program Planning in Agricultural Education	3
Ag 03-421 Conducting Supervised Agricultural Experience Programs	2
Ag 03-422 Adult Education in Agriculture	2
Ag 03-524 Teaching Agricultural Laboratories	2
Ag 03-580 Methods in Teaching Agriculture	2
Total	14
Directed General Education Requirement	
Chem 24-112/113 General Chemistry and Laboratory OR	
Chem 24-114/115 General Chemistry I and Laboratory	4

**Can be used to fulfill General Education requirement.

Endorsement for Middle School Certification: Agriculture Certifies Grades 5-9 when completed with the Middle School Major

This endorsement will meet the requirements for middle school major under Option II, Department of Curriculum and Instruction.

Required Courses	Semester Hours
Ag 03-102 Introductory Agricultural Economics	3
Ag 03-112 Agricultural Mechanics	4
Ag 03-130 Plant Science	4
Ag 03-150 Animal Science	4
Ag 03-234 Soils	4
Ag 03-320 Foundations of Agricultural Education	3
Total	22

Comprehensive Major in Agricultural Science, 55 hours: B.S.—No Minor Required

Agricultural science prepares students for a wide variety of positions in agriculture and agriculturally-related occupations, as well as farm operations.

In addition to the courses listed below, a program to total 55 hours of agriculture courses is designed by the student and an advisor to meet the needs of each student.

Required Courses	Semester Hours
*Ag 03-102 Introductory Agricultural Economics	3
*Ag 03-130 Plant Science	4
Ag 03-150 Animal Science	4
Ag 03-234 Soils	4
Ag 03-496 Seminar	1
**Advisor-approved electives in agriculture	39
Total	55

**Students selecting a Comprehensive Major in Agricultural Science must complete a minimum of 9 credit hours in at least three of the agricultural areas: agricultural economics, agricultural mechanization, agricultural education, agronomy, animal science and horticulture. Each course may be counted in only one major area.

Directed General Education Requirements

Chem 24-112/113 General Chemistry and Laboratory OR	
Chem 24-114/115 General Chemistry I and Laboratory	4
Math 17-118 College Algebra	3

*Cannot be used to fulfill any General Education requirement.

NOTE: Grade Requirement: Students must earn a grade of “C” or better in Ag 03-102, Introductory Agricultural Economics, Ag 03-130, Plant Science, and Ag 03-150, Animal Science. Students may have no more than seven hours of “D” in courses required by this major.

MINORS

Minor in Agricultural Science, 24 hours

Required Courses	Semester Hours
*Ag 03-102 Introductory Agricultural Economics	3
*Ag 03-130 Plant Science	4
Ag 03-150 Animal Science	4
Ag 03-234 Soils	4
Advisor-approved electives in agriculture	9

*Cannot be used to fulfill any General Education requirement.

NOTE: Grade Requirement: Students must earn a grade of “C” or better in Ag 03-102, Introductory Agricultural Economics, Ag 03-130, Plant Science, and Ag 03-150, Animal Science.

Minor in Commercial Agriculture, 24 hours: B.S.

Required Courses	Semester Hours
*Ag 03-102 Introductory Agricultural Economics OR	
Econ 52-151 General Economics II	3
Acct 51-201 Accounting I	3
Ag 03-302 Agricultural Marketing	3
Ag 03-309 Applied Futures Marketing	3
Ag 03-502 Agricultural Prices	3
Advisor-approved electives	9

Select 9 hours from the following courses:

Acct 51-202 Accounting II	3
Fin 53-324 Fundamentals of Business Finance	3
Mgmt 54-313 Principles of Management	3
Mkt 55-430 Sales & Sales Management	3
Ag 03-304 Farm Management and Record Analysis	3
Ag 03-305 Rural Real Estate Appraisal	3
Ag 03-407 Agricultural Finance	3
Ag 03-503 Agricultural Law	3
Ag 03-508 Agricultural Policy	3

*Cannot be used to fulfill any General Education requirement.

NOTE: Grade Requirement: Students must earn a grade of “C” or better in Ag 03-102, Introductory Agricultural Economics.

Minor in Agronomy, 24 hours

Required Courses	Semester Hours
*Ag 03-130 Plant Science	4
Ag 03-232 Crop Production	3
Ag 03-234 Soils	4
Ag 03-330 Forage Crops OR	
Ag 03-392 Farm Chemicals and Their Use OR	
Ag 03-532 Soil and Water Conservation	3
Ag 03-336 Crop Physiology OR	
Ag 03-534 Plant Breeding	3
Ag 03-530 Soil Formation and Classification OR	
Ag 03-536 Soil Fertility	3
Ag 03-381 Applied Entomology OR	
Ag 03-434 Weed Science: Ecology and Control OR	
Ag 03-582 Plant Diseases	3
Advisor-approved electives in agronomy	1

*Cannot be used to fulfill any General Education requirement.

NOTE: Grade Requirement: Students must earn a grade of “C” or better in Ag 03-130, Plant Science.

Minor in Animal Science, 22 hours

Required Courses	Semester Hours
Ag 03-150 Animal Science	4
Ag 03-252 Livestock Evaluation	3
Ag 03-352 Meats	3
Ag 03-360 Principles of Nutrition OR	
Ag 03-460 Applied Animal Nutrition	3
Ag 03-366 Principles of Animal Breeding	3
Ag 03-452 Beef Production OR	
Ag 03-454 Pork Production	3
Ag 03-566 Genetics of Livestock Improvement	3

NOTE: Grade Requirement: Students must earn a grade of “C” or better in Ag 03-150, Animal Science.

Minor in Horticulture, 24 hours

Required Courses	Semester Hours
*Ag 03-130 Plant Science	4
Ag 03-234 Soils	4
Ag 03-380 Plant Propagation	3
Ag 03-381 Applied Entomology	3
Ag 03-582 Plant Diseases	3
Advisor-approved electives in horticulture	7

*Cannot be used to fulfill any General Education requirement.

NOTE: Grade Requirement: Students must earn a grade of “C” or better in Ag 03-130, Plant Science.

Minor in Precision Agriculture, 24-25 hours*

This is an interdisciplinary minor in conjunction with Agriculture and Geography.

Several of the required and elective courses in this minor have a prerequisite of Ag 03-130 or Bio 04-112/113 and Chem 24-112/113 or 114/115. In addition, several of the elective courses have a prerequisite of Geol 27-110/111 or 114/115 and/or Math 17-118. Students electing to take this minor should choose their general studies science courses to satisfy these prerequisites.

Required Courses	Semester Hours
32-201 Maps and Map Interpretation	3
32-207 GPS Fundamentals	3
03-232 Crop Production	3
03-234 Soils	4
32-365 Geographical Information Systems	3
03-440 Introduction to Precision Agriculture	3
03-549 Problems in Agronomy	3
Advisor Approved Electives (3 hours)	
03-381 Applied Entomology	3
03-392 Farm Chemicals and Their Use	3
03-434 Weed Science: Ecology and Control	3
03-530 Soil Formation and Classification	3
03-536 Soil Fertility	3
03-582 Plant Diseases	3
32-362 Cartography	3
32-363 Remote Sensing	3
32-465 Introduction to Customized GIS	3
32-562 Digital Cartography and Geo Visualization	3
32-563 Digital Image Processing	3
32-565 Advanced Geographic Information Systems	3
27-340 Introduction to Hydrogeology	3
27-360 Environmental Geology	4

*A three hour advisor approved elective may be substituted for Soils (03-234), if Soils is required within the student's major.

NOTES: No courses may count for both a major in Geography or Agriculture and this minor. Substitution of required courses should be made with courses listed under advisor approved electives.

Consultation with an advisor is required to properly select electives for this minor.

TWO-YEAR CERTIFICATE PROGRAM

Farm Operation, 60 hours

A two-year program designed to allow the student a highly concentrated course of study to prepare for farming or ranching.

Required Courses	Semester Hours
Ag 03-102 Introductory Agricultural Economics	3
Ag 03-130 Plant Science	4
Ag 03-150 Animal Science	4
Ag 03-234 Soils	4
Advisor-approved electives in agriculture	30
Advisor-approved electives	15

Course Descriptions

Agriculture / 03

AGRICULTURAL ECONOMICS

Agriculture courses preceded by an asterisk() are available to students for credit by examination.

*102 Introductory Agricultural Economics (3 hours)

Principles of production, supply and demand are applied to economic problems of agriculture and agriculturally related industries. Emphasis is placed on understanding the theoretical underpinnings of decision analysis within the biological, institutional and structural parameters of the agricultural sector. (F, S, SS)

302 Agricultural Marketing (3 hours)

A course surveying the nature of production, the marketing system, and the market for farm products, market functions and institutions' commodity problems. Prerequisite: Ag 03-102. (F)

304 Farm Management and Record Analysis (3 hours)

Economic principles applied to the organization and operation of farms, complete and partial budgeting, farm record analysis, farm financial management and problems involving farm decision-making. Prerequisite: Ag 03-102 (F, S)

305 Rural Real Estate Appraisal (3 hours)

The classification and valuation of real estate using the sales, income, cost and productivity methods. Several field appraisals will be completed by the students. (S, even years)

308 Agricultural Applications of Computers (3 hours)

A study of the application of computers to agricultural problems and the utilization of the EDP Systems as a farm management tool. (S)

309 Applied Futures Marketing (3 hours)

A course designed to familiarize the students with the composition of the futures and cost markets, how the cash and futures markets are related, chart reading to determine trends, basis formations, hedging and speculation. (F, S)

404 Livestock Marketing (2 hours)

Economic analysis of marketing livestock products from the standpoint of producers, processors, distributors; also evaluation and pricing of meat animals. (S)

407 Agricultural Finance (3 hours)

Financial requirements of the individual farm firm, capital budgeting, principles of debt and equity fund acquisition, cash flow analysis and evaluation of credit needs. Farm credit institutions are studied. Prerequisite: Ag 03-304. (F, SS)

408 Professional Farm Management (3 hours)

The effects of goals, values and resource availability upon management decisions. The farm production planning decisions will be determined by economic and financial analysis using a linear programming model. A long-run plan will be developed by each student. Other farm management computer applications are also covered. Prerequisite: Ag 03-304. (F, odd years)

409 Independent Study in Agricultural Economics (1-3 hours)

For students who wish to intensify, enrich or specialize in the area of agricultural economics. Consent of instructor necessary. See course requirements. (F, S, SS)

502 Agricultural Prices (3 hours)

A study of the factors affecting prices of agricultural products; longtime cyclical, seasonal and other price movements; sources of information relating to production and demand factors; government activities as they relate to prices of agricultural products and problems of price analysis and forecasting. Prerequisites: Ag 03-102 and 302. (S)

503 Agricultural Law (3 hours)

The farmer's legal setting, deeds, mortgages, leases, water and fencing rights, easements, estate planning and other aspects. (F)

504 Futures Marketing (3 hours)

An advanced course designed to provide an in-depth treatment of how the futures market is used throughout the marketing chain from farm production to end product use. Includes extensive study of the more technical aspects of charting and how to use these techniques as price forecasting tools. Prerequisite: Ag 03-309. (S, even years, SS)

505 Agricultural Resource Economics (3 hours)

Physical, economic and institutional factors that affect the role of land in economic life; population and resource requirements; principles of land utilization; returns from land; land value; property rights and tenure rights; social controls and rural and urban land development. Prerequisite: Ag 03-102. (F, odd years)

508 Agricultural Policy (3 hours)

An analysis and history of the current economic problems of agriculture with emphasis on the influence of governmental policies. A term paper will be required. Prerequisite: Ag 03-102. (S, odd years)

509 Problems in Agricultural Economics (1-3 hours)

Studies in the area of agricultural economics. Consent of instructor necessary. See course requirements. (F, S, SS)

598 Advanced Agricultural Applications of Computers and GPS (3 hours)

A study of the use of statistical analysis and mathematical models in the agricultural business decision-making process. Prerequisites: Math 17-114 or 610 and CSIS 44-130 or Ag 03-308. (S, odd years)

AGRICULTURAL MECHANIZATION**112 Agricultural Mechanics (4 hours)**

Topics include hot and cold metal work, arc and oxyacetylene welding, tool care and use, woodworking, concrete, engines and machinery management. (S)

***312 Agricultural Welding (2 hours)**

A course designed to combine the basic fundamentals of electric arc and oxyacetylene welding with application to actual farm conditions using farm machinery and materials. (SS)

419 Independent Study in Agricultural Mechanization (1-3 hours)

For students who wish to intensify, enrich or specialize in the study of agricultural mechanization. Consent of instructor necessary. See course requirements. (F, S, SS)

510 Soil and Water Management (3 hours)

Water management on the farm as it relates to maintaining soil productivity. Includes surveying, design and layout of soil conservation engineering practices, such as waterways, diversions, terraces, farm ponds and drainage systems. (SS)

518 Agricultural Drainage and Irrigation (3 hours)

A study of the needs of drainage and irrigation in agriculture including the design and application of drainage and irrigation systems under various conditions. (F, even years) Prerequisite: Ag 03-234.

519 Problems in Agricultural Mechanization (1-3 hours)

Studies in the area of specialization of agricultural mechanization arranged with a member of the faculty. Consent of instructor necessary. See course requirements. (F, S, SS)

AGRICULTURAL EDUCATION***320 Foundations of Agricultural Education (3 hours)**

A course dealing with the history and future of education in agriculture and what is included in an agricultural education program, with emphasis on leadership training and the FFA. Professional organizations are also included. (F)

420 Program Planning in Agricultural Education (3 hours)

Curriculum construction in agricultural education, preparation of audio-visual aids, summer programs and the development of departmental and FFA programs of activities. (F)

421 Conducting Supervised Agriculture Experience Programs (2 hours)

A course dealing with the experience program requirements of students in high school agriculture. How to plan, organize, evaluate and carry out the SAE programs. (F)

422 Adult Education in Agriculture (2 hours)

A course dealing with adult education. Emphasis on establishment of young farmer and adult programs, determining needs, gathering resources and utilization of instructional skills with the adult student. (S)

429 Independent Study in Agricultural Education (1-3 hours)

For students who wish to intensify, enrich or specialize in the study of any aspect of agricultural education with members of the staff. Consent of instructor necessary. See course requirements. (F, S, SS)

524 Teaching Agricultural Laboratories (2 hours)

Methods of teaching and maintaining an agricultural education program. How to plan the physical plant; select tools, equipment and supplies; organize course content and properly conduct and manage agricultural laboratories. (F)

525 Induction Year Beginning Teacher I (2 hours)

A continuing education course for the professional development of first-year teachers of agriculture. Course focuses on the pedagogical knowledge, skills, attitudes and managerial skills needed by beginning teachers of agriculture. (SS)

527 Induction Year Beginning Teacher II (2 hours)

A continuing education course for the professional development of second-year teachers of agriculture. Focus is on the pedagogical knowledge, skills, attitudes and managerial skills needed by beginning teachers of agriculture. (SS)

529 Problems in Agricultural Education (1-3 hours)

Studies in the areas of agricultural education with members of the staff. Consent of instructor necessary. See course requirements. (F, S, SS)

580 Methods in Teaching Agriculture (2 hours)

A course in the special methods and materials of teaching agriculture, with an emphasis on teaching problem solving and agriculture management. (S)

AGRONOMY**130 Plant Science (4 hours)**

A survey course that covers fundamentals of structure, function and environmental interactions of higher plants. The application of science to the study and utilization of plants is examined. Three hours of lecture and a two-hour laboratory per week. (F, S)

232 Crop Production (3 hours)

A study of how current technology, along with principles of adaptation, development and culture are applied to the production of agronomic and other crops. Prerequisites: Ag 03-130 or Bio 04-112/113, or consent of instructor. (F)

234 Soils (4 hours)

The soil forming process, the classification of soils, physical and chemical properties of soils, soil management and maintenance of fertility. Prerequisites: Chem 24-112/113 or permission of instructor. (F, S)

238 Field Scouting Workshop (1-2 hours)

A hands-on practical workshop course designed to provide the student with the primary skills needed to do soil sampling and pest identification. Pest management strategies and elemental GIS utilization will also be included. The course will be offered on a team-taught, modular basis. (S)

330 Forage Crops (3 hours)

A detailed study of the culture, storage and utilization of the principal forage crops. Prerequisite: Ag 03-130 recommended. (S)

336 Crop Physiology (3 hours)

A study of the physiological, nutritional and ecological aspects of crop growth and management. Prerequisite: Ag 03-130 or Bio 04-112/113. Chem 24-112/113 or 114/115 recommended. (F)

392 Farm Chemicals and Their Use (3 hours)

A study of pesticide use and principles of their regulation, application, efficacy and environmental fate. Prerequisite: Chem 24-112/113 or Chem 24-114/115 or consent of instructor. (S)

434 Weed Science: Ecology and Control (3 hours)

Study and evaluation of weed competition concepts and the current and evolving methods of weed management. Prerequisite: Ag 03-130 or Bio 04-112/113. (F, even years)

437 Soil Evaluation (1 hour)

Field experience in soil evaluation. Course may be repeated once for a total of 2 hours. Prerequisite: Ag 03-234. (S)

***440 Introduction to Precision Agriculture (3 hours)**

The methods of analysis and interpretation of soil tests and plant tissue analysis. Prerequisite: Ag 03-234. (F)

442 Practical Field Crops Evaluation (1 hour)

Experience and practice in identification, agronomic calculations, and applications of agronomic facts. Consent of instructor required. Prerequisite: Ag 03-232. (S)

449 Independent Study in Agronomy (1-3 hours)

For students who wish to intensify, enrich or specialize in the study of any aspect of agronomy under the direction of a staff member. Consent of instructor necessary. See course requirements. (F, S, SS)

530 Soil Formation and Classification (3 hours)

The characteristics and identification of soils, the principles and practices of soil surveying, land judgment and land appraisal. Prerequisite: Ag 03-234. (S)

532 Soil and Water Conservation (3 hours)

Principles of conservation of soil resources and the influence of physical characteristics on losses. Conservation practices as they apply to the farming unit. Prerequisite: Ag 03-234. (F)

534 Plant Breeding (3 hours)

A study of the improvement of agricultural plants by application of the principles of heredity. Prerequisite: Ag 03-130 or Bio 04-112/113. (S)

536 Soil Fertility (3 hours)

The production, properties and use of the various fertilizers and other soil amendments. Prerequisite: Ag 03-234. (S)

540 Grain Crops (3 hours)

This course uses systems concepts as the basis for studying humankind's most important crops. An integrative approach is taken in the examination of production processes, management strategies and environmental issues. Prerequisite: 12 hours of agriculture. (F, odd years)

549 Problems in Agronomy (1-3 hours)

Studies in the areas of agronomy arranged with members of the staff. Consent of instructor necessary. See course requirements. Prerequisite: Ag 03-234. (F, S, SS)

ANIMAL SCIENCE

***150 Animal Science (4 hours)**

An introductory animal science course dealing with the meat animal and dairy industry. Includes basic principles of selection, feeding, breeding, housing, marketing, management and the relationship of these two livestock enterprises to the total agricultural industry. (F, S)

170 Dairy Science (3 hours)

Fundamentals of the dairy industry. Includes basic principles of nutrition, reproduction, milk production and management of dairy herds. (S)

252 Livestock Evaluation (3 hours)

Comparative judging and evaluation of farm animals for specific uses, estimating yield grade and carcass quality of market animals. Work will include beef cattle, sheep and swine. (F, S)

352 Meats (3 hours)

Identification and grading of retail and wholesale cuts of meat with emphasis on their economic and nutritional value. Also carcass evaluation, meat curing and processing. (S)

358 Livestock Health and Disease Management (3 hours)

A study of the management of farm animals on a small scale family farm. Includes prevention and diagnosis of disease parasites, nutrition, facility, reproductive and sanitation problems. Prerequisite: Ag 03-150. (F)

360 Principles of Animal Nutrition (3 hours)

A study of the principles of animal nutrition and practical problems of feeding livestock. (F)

364 Anatomy of Domestic Animals (3 hours)

A study of the major anatomical systems of the ruminant, monogastric and fowl. (F)

365 Artificial Insemination (1-3 hours)

A study of artificial insemination techniques of domestic animals as related to reproductive anatomy, physiology and breeding management. (SS)

366 Principles of Animal Breeding (3 hours)

A study of the reproductive anatomy, endocrinology, physiology and management of domestic animals. (S)

450 Sheep Production (3 hours)

Breeding, feeding and management of commercial and purebred sheep. (S)

452 Beef Production (3 hours)

Breeding, feeding and management of commercial and purebred beef cattle. Includes lab sessions. (F)

454 Pork Production (3 hours)

Breeding, feeding and management of commercial and purebred swine. (F)

455 Swine Confinement Management (3 hours)

Application of the principles of swine management to confinement swine production. (S)

460 Applied Animal Nutrition (3 hours)

Preparation, feeding standards and calculation of rations and nutritional management of herds and flocks. Prerequisite: Ag 03-360 or consent of instructor. (S)

464 Physiology of Domestic Animals (3 hours)

Physiology of the neuromuscular, circulatory, respiratory, digestive, endocrine, reproductive and excretory systems in domestic animals as related to their growth and production. (S)

469 Independent Study in Animal Science (1-3 hours)

For students who wish to intensify, enrich or specialize in the study of any area of animal science. Consent of instructor necessary. See course requirements. (F, S, SS)

***566 Genetics of Livestock Improvement (3 hours)**

Applications of genetics to the breeding and improvement of livestock. (F)

569 Problems in Animal Science (1-3 hours)

Advanced studies in an area of animal science arranged with a member of the faculty. Consent of instructor necessary. See course requirements. (F, S, SS)

HORTICULTURE**380 Plant Propagation (3 hours)**

Principles and practices of sexual and asexual propagation of plants. (S)

381 Applied Entomology (3 hours)

A study of insects with special reference to taxonomy, life cycles, economic importance and management. (F)

382 Woody Landscape Plants (3 hours)

Description, use, adaptation, culture and classification of woody plants and cultivars. (F)

383 Landscape Design (3 hours)

Design and development of residential space. (S, odd years)

385 Greenhouse Crop Production (3 hours)

The identification, propagation and culture of flowering potted plants, annual plants and tropical ornamentals. (S, odd years)

387 Greenhouse Management and Materials (3 hours)

A survey of methods and materials related to management of the greenhouse environment, including heat, light, ventilation, soil, fertilizer, irrigation and crop scheduling. (F, even years)

388 Fruit and Vegetable Production (3 hours)

Fundamentals of fruit and vegetable crop production, with an emphasis on environmental factors influencing growth, development and quality. (S, even years)

483 Landscape Construction (3 hours)

Study of the design and installation of "hardscape" components in residential and commercial landscapes, including electrical lighting, water management systems, landscape structures, retaining walls, irrigation systems and the use of sustainable materials. (S, odd years)

485 Herbaceous Perennials (3 hours)

Course encompasses the identification, selection and culture of herbaceous perennials, biennials and ornamental grasses.

489 Independent Study in Horticulture (1-3 hours)

For students who wish to intensify, enrich or specialize in the study of any area of horticulture. The course requires the consent of the advisor and supervising staff member. See course requirements. (F, S)

582 Plant Diseases (3 hours)

A study of diseases affecting ornamental and crop plants; their causes, nature, economic effects, epidemiology and control. (S)

583 Turfgrass Management (3 hours)

A study of the selection, establishment and maintenance of various turfgrasses with emphasis on nutrient and pest management. (S, even years)

585 Principles of Postharvest Horticulture (3 hours)

A study of the physical and physiological principles related to harvest, packaging, transportation, marketing, quality and safety of horticultural crops. (F, odd years)

589 Problems in Horticulture (1-3 hours)

Studies in the area of horticulture arranged with members of the staff. The course requires consent of the advisor and supervising staff member. See course requirements. (F, S, SS)

AGRICULTURAL SCIENCE

496 Seminar (1 hour)

A course designed for presenting papers and discussion of problems as well as research in agriculture. Prerequisite: Senior standing. (F, S)

498 Agriculture Occupations Internship (3-6 hours)

Supervised program of applied management practices, policies and procedures within areas of agricultural business occupations. Prerequisite: Consent of advisor necessary. (F, S, SS)

Department of Computer Science/ Information Systems / 44

Chairperson: Phillip Heeler

Faculty: Joni Adkins, Scott Bell, Judy Clark, Dale Ferguson, Carolyn Hardy, Gary McDonald, Merry McDonald, Dean Sanders, Carol Spradling, Gary Ury, Nancy Zeliff

Statement of Mission

The mission of the Department of Computer Science/Information Systems is to develop and enhance an individual's professional competence in the areas of computers, information systems and related technologies. The goal of each major is to provide a sufficiently focused curriculum to enable students to compete successfully in the job market, while also providing sufficient breadth to facilitate lifelong learning, whether that learning continues 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 the many 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. In addition, there are minors in computer science, computer networking, database management systems, computer applications, marketing and cooperative education, systems management, geographic information systems, interactive digital media and business education and non-degree office systems, information systems and medical administrative assistant programs.

The focus of the computer science major is software design and implementation. The program also provides a solid background in the fundamental principles of computer networks, computer organization, database systems, operating systems and programming languages.

Interactive digital media students will possess cross-disciplinary knowledge and skills in areas that deal with visual aesthetic understanding and communication, integrated with technological knowledge. Students in the computer science programming concentration will design and implement computer programs, and explore the additional topics of computer organization, networking, database development and other computer technologies.

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 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.

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

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

Advanced Standing Requirement

To ensure that students have the necessary tools to begin study in their major area, the Department of Computer Science/Information Systems requires that students must meet certain requirements before enrolling in advanced coursework. Students making application to major in Business Education, Computer Science, Interactive Digital Media (CP), Management Information Systems or Office Information Systems must achieve Advanced Standing. Students who have not successfully achieved Advanced Standing prior to becoming an academic senior* (90 or more academic credit hours) will be prohibited from enrolling in any major course until they have achieved Advanced Standing.

To achieve Advanced Standing in Computer Science, the student must:

1. Attain at least a cumulative 2.00 GPA and a 2.00 GPA in all major courses
2. Attain a score at level 1 or higher on all areas of the Academic Profile
3. Attain at least a grade of “C” or better in each of the courses listed below:

Math 17-120 Calculus I	4
Math 17-215 Discrete Structures	4
CSIS 44-130 Computers and Information Technology	3
CSIS 44-141 Computer Programming I	3
CSIS 44-241 Computer Programming II	3
CSIS 44-242 Data and File Structures	3

Total **20**

To achieve Advanced Standing in Management Information Systems, the student must:

1. Attain at least a cumulative 2.00 GPA and a 2.00 GPA in all major courses
2. Attain a score at level 1 or higher on all areas of the Academic Profile
3. Attain at least a grade of “C” or better in each of the courses listed below:

CSIS 44-130 Computers and Information Technology	3
Math 17-114 General Statistics I	3
Math 17-118 College Algebra	3
Acct 51-201 Accounting I	3
Econ 52-150 General Economics I	3
Econ 51-151 General Economics II	3

Total **18**

*In exceptional cases, a student not meeting the “90-hour rule” may appeal to the department’s Advanced Standing Committee.

To achieve Advanced Standing in Business Education or Office Information Systems, the student must:

1. Receive a “C” or better for each required course taken in the Department of Computer Science/Information Systems
2. Attain a score at level 1 or higher on all areas of the Academic Profile

Business Education majors and minors must also meet the requirements for Admittance to Teacher Education as specified on page 298 of this catalog.

Students who have met this Advanced Standing requirement are official members of the department and can pursue any major course, assuming the prerequisites have been met.

Senior Assessment

For each of the majors in the Computer Science/Information Systems Department, a senior-level major field assessment must be completed by each student.

MAJORS

Comprehensive Major in Computer Science: B.S.–No Minor Required

Directed Institutional Requirement

CSIS 44-130 Computers and Information Technology	3
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Required Courses

	Semester Hours
CSIS 44-141 Computer Programming I	3
CSIS 44-241 Computer Programming II	3
CSIS 44-242 Data and File Structures	3
CSIS 44-296 Professional Development Seminar	1
CSIS 44-325 Programming Languages	3
CSIS 44-345 Computer Organization I	3
CSIS 44-349 Survey of Algorithms	3
CSIS 44-356 CCNA: Network Fundamentals	3
CSIS 44-445 Computer Organization II	3
CSIS 44-450 Operating Systems	3
CSIS 44-460 Database Systems	3
CSIS 44-525 Theory and Implementation of Programming Languages	3
CSIS 44-561 Software Engineering I	3
CSIS 44-562 Software Engineering II	3
Math 17-120 Calculus I	4
Math 17-121 Calculus II (4) OR	
Math 17-316 General Statistics II (3)	3-4
Math 17-215 Discrete Mathematics	4
Math 17-230 Probability and Statistics	3
*Phys 25-110/111 and 25-112/113 General Physics I, II, and Laboratory OR	
25-120/121 and 25-230/231 Fund. of Classical Physics I, II, and Lab OR	
Chem 24-114/115 and 24-116/117 General Chemistry I, II, and Lab	8-10

Total Major Requirements

62-65

*Cannot be used to fulfill any General Education requirement.

NOTES: (1) All required and elective computer science courses must be passed with a grade of “C” or better. A major field assessment is required of all senior year students majoring in computer science. (2) Java as a Second Language (CSIS 44-239) plus two hours of advisor-approved electives in computer science can substitute for CSIS 44-141 and 44-241 in the computer science major.

Comprehensive Major in Interactive Digital Media: 61 hours, B.S.—No Minor Required

Computer Science Programming Concentration

This is an interdisciplinary major in conjunction with Art, Computer Science/Information Systems and Mass Communication. Three concentrations are available for this major: Computer Science Programming (Computer Science/Information Systems), New Media (Mass Communication), and Visual Imaging (Art).

Directed Institutional Requirement

CSIS 44-130 Computers and Information Technology	3
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Required Core Courses

Semester Hours

Art 13-191 Introduction to Design	3
Art 13-207 Digital Photography	3
Art 13-292 Introduction to Creative Electronic Imaging	3
Art 13-294 Letterforms and Graphic Design	3
MC 20-120 Introduction to Mass Media	3
MC 20-243 Media Design I	3
MC 20-303 Introduction to Web Publishing	3
MC 20-314 Communication Law	3
CSIS 44-143 Script Programming I	3
CSIS 44-333 Multimedia and Web Development	3
CSIS 44-335 Script Programming II	3
Mkt 55-330 Principles of Marketing	3

Total Core Requirements

36

Required Courses for Concentration in Computer Science Programming:

CSIS 44-141 Computer Programming I	3
CSIS 44-241 Computer Programming II	3
CSIS 44-242 Data and File Structures	3
CSIS 44-345 Computer Organization I	3
CSIS 44-356 CCNA: Network Fundamentals	3
CSIS 44-415 Interactive Digital Media Seminar	1
CSIS 44-460 Database Systems	3
CSIS 44-563 Web Services Technology	3

Choose one from the following electives:

3

CSIS 44-540 Visual Application Development (3)	
CSIS 44-555 Server Applications & Network Security (3)	
CSIS 44-560 Advanced Topics in Database Systems (3)	
CSIS 44-590 Special Topics (3)	

Total Concentration Hours

25

Total Major Requirements

61

Concentration in New Media – see the Mass Communication Department

Concentration in Visual Imaging – see the Art Department

Comprehensive Major in Management Information Systems: B.S.—No Minor Required

Students choosing a Comprehensive Major in Management Information Systems must take the Common Professional Component courses previously outlined on page 233 plus fulfill the following major requirements:

Required Courses	Semester Hours
CSIS 44-141 Computer Programming I	3
CSIS 44-241 Computer Programming II	3
CSIS 44-250 COBOL Programming	3
CSIS 44-312 Information Technology Hardware and Software	3
CSIS 44-356 CCNA: Network Fundamentals	3
CSIS 44-411 Systems Analysis and Design	3
CSIS 44-418 Information Technology Project Management	3
CSIS 44-460 Database Systems	3
CSIS 44-540 Visual Application Development	3
Total Major Requirements	27

NOTE: Grade Requirement: Students must earn a grade of “C” or better in each of the CSIS courses in this major. A major field assessment is required of all senior year students majoring in MIS.

Comprehensive Major in Office Information Systems: B.S.—No Minor Required

Students choosing a Comprehensive Major in Office Information Systems must take the Common Professional Component courses previously outlined on page 233 plus fulfill the following major requirements:

Required Courses	Semester Hours
CSIS 44-211 Spreadsheet Applications	1
CSIS 44-212 Advanced Spreadsheets and Charting	1
CSIS 44-245 DigiTools	3
CSIS 44-320 Advanced Word Processing	1
CSIS 44-330 Presentation Graphics	1
CSIS 44-340 Digital Media	1
- CSIS 44-343 Virtual Workplace	3
CSIS 44-344 Desktop Publishing	3
CSIS 44-346 Database Applications	1
Advisor-approved elective	3
Choose one of the following emphasis areas for six hours	6
Interactive Digital Media Emphasis	
CSIS 44-143 Script Programming I (3)	
CSIS 44-333 Multimedia and Web Development (3)	
OR	
Management Emphasis	
Mgmt 54-314 Human Resource Management (3)	
Mgmt 54-316 Organizational Behavior and Theory (3)	
Total Major Requirements	24

Major in Business Education: B.S.Ed., Secondary Program— No Minor Required (Certifies Grades 9-12)

Students choosing a Major in Business Education must take the Common Professional Component courses totaling 48 hours previously outlined on page 233, plus fulfill the following major requirements:

Required Courses	Semester Hours
CSIS 44-245 DigiTools	3
CSIS 44-320 Advanced Word Processing	1
CSIS 44-330 Presentation Graphics	1
CSIS 44-340 Digital Media	1
CSIS 44-343 Virtual Workplace OR	
CSIS 44-495 Internship in Computer Science/Information Systems	3
CSIS 44-344 Desktop Publishing	3
CSIS 44-584 Implementing Business and Marketing Education Programs	3
Total Major Requirements	15

CSIS 44-580 Methods of Teaching Business and Marketing is the required subject field methods course.

MINORS

Minor in Computer Science, 21 hours

Directed Institutional Requirement

CSIS 44-130 Computers and Information Technology	3
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Required Courses	Semester Hours
CSIS 44-141 Computer Programming I	3
CSIS 44-241 Computer Programming II	3
CSIS 44-242 Data and File Structures	3
CSIS 44-345 Computer Organization I	3

NOTE: CSIS 44-241 has a prerequisite of Math 17-110 or 118, and CSIS 44-345 has a prerequisite of one trimester of chemistry, physics or physical sciences. Students electing to take this minor should choose their general studies math and science courses to satisfy these prerequisites.

Choose at most 3 hours from the following electives: 0-3

CSIS 44-140 Visual Basic Application Programming (3)
CSIS 44-149 Scientific Computing (3)
CSIS 44-250 COBOL Programming (3)

Choose at least 6 hours from the following electives: 6-9

CSIS 44-325 Programming Languages (3)
CSIS 44-349 Survey of Algorithms (3)
CSIS 44-356 CCNA: Network Fundamentals (3)
CSIS 44-445 Computer Organization II (3)
CSIS 44-450 Operating Systems (3)
CSIS 44-460 Database Systems (3)
CSIS 44-525 Theory and Implementation of Programming Languages (3)
CSIS 44-561 Software Engineering I (3)
CSIS 44-540 Visual Application Development (3) OR
CSIS 44-590 Special Topics (3)

Total Minor Requirements 21

NOTES: (1) Grade Requirement: Students must earn a grade of "C" or better in each of the Computer

Science courses in the 21-hour minor. (2) Java as a Second Language (CSIS 44-239) plus two hours of advisor-approved electives in computer science can substitute for CSIS 44-141 and 44-241 in the computer science minor.

Minor in Computer Networking, 21 hours

Directed Institutional Requirement

CSIS 44-130 Computers and Information Technology 3

Required Courses

Semester Hours

CSIS 44-312 Information Technology Hardware and Software OR 3

CSIS 44-345 Computer Organization 3

CSIS 44-356 CCNA: Network Fundamentals 3

CSIS 44-358 CCNA: Routing Protocols & Concepts 3

CSIS 44-456 CCNA: LAN Switching and Wireless 3

CSIS 44-458 CCNA: Accessing the WAN 3

CSIS 44-555 Server Applications and Network Security 3

Select an additional three hours from the following or advisor approved elective: 3

CSIS 44-140 Visual Basic Application Programming (3)

CSIS 44-141 Computer Programming I (3)

CSIS 44-333 Multimedia and Web Development (3)

CSIS 44-450 Operating Systems (3)

CSIS 44-460 Database Systems (3)

CSIS 44-540 Visual Application Development (3)

CSIS 44-563 Web Services Technology (3)

Total Minor Requirements 21

NOTE: Grade Requirement: Students must earn a grade of "C" or better in each of the Computer Science courses in the 21-hour minor.

Minor in Business Education, 30-33 hours: B.S.Ed., Secondary Program (Certifies Grades 9-12)–See Professional Education Requirements

Directed Institutional Requirement

CSIS 44-130 Computers and Information Technology 3

Required Courses

Semester Hours

CSIS 44-245 DigiTools 3

CSIS 44-320 Advanced Word Processing 1

CSIS 44-330 Presentation Graphics 1

CSIS 44-340 Digital Media 1

CSIS 44-343 Virtual Workplace 3

Acct 51-201 Accounting I 3

Econ 52-150 General Economics I 3

Fin 53-311 Business Law I 3

Mgmt 54-310 Managerial Communication 3

Mgmt 54-313 Principles of Management 3

Mkt 55-330 Principles of Marketing 3

CSIS 44-584 Implementing Business and Marketing Education Programs 3

CSIS 44-495 Internship in Computer Science/Information Systems (3) OR

2000 Work Hours in a Business/Office 0-3

Total Minor Requirements 30*-33**

* 30 hours is minimum required for initial business education certification as prescribed by DESE.

** 33 hours is minimum required if a student does not have 2000 hours in business/office related work experience.

Minor in Marketing and Cooperative Education, 32 hours

The offering of this minor is contingent upon state approval. First planned offering of this minor is Fall 2008.

Required Courses	Semester Hours
Mgmt 54-313 Principles of Management	3
Econ 52-150 General Economics I	3
Acct 51-201 Accounting I	3
Acct 51-202 Accounting II	3
Fin 53-324 Fundamentals of Business Finance	3
Mkt 55-330 Principles of Marketing	3
Mkt 55-438 International Business	3
CSIS 44-584 Implementing Business and Marketing Education Programs	3
CarEd 02-510 Coordination of Cooperative Education	2
Choose six hours from the following:	6
Mkt 55-331 Retailing (3)	
Mkt 55-332 Promotion (3)	
Mkt 55-333 Consumer Behavior (3)	
Mkt 55-430 Sales and Sales Management (3)	
Mkt 55-431 Logistics Management (3)	
Total Minor Requirements	32

Approved occupational experience or appropriate internship is required.

Endorsement for Middle School Certification—Business Education, Grades 5-9

Certifies grades 5-9 when completed with the Middle School Major

Directed Institutional Requirement	Semester Hours
CSIS 44-130 Computers and Information Technology	3
Required Courses	Semester Hours
CSIS 44-245 DigiTools	3
CSIS 44-211 Spreadsheets	1
CSIS 44-212 Advanced Spreadsheets and Charting	1
CSIS 44-320 Advanced Word Processing	1
CSIS 44-330 Presentation Graphics	1
CSIS 44-333 Multimedia and Web Development	3
CSIS 44-340 Digital Media	1
CSIS 44-344 Desktop Publishing	3
CSIS 44-346 Database Applications	1
Econ 52-130 Survey of Economics	3
Fin 53-120 Personal Money Management	3
Total Endorsement Requirements	21

Computer Concentration—Elementary Education

Concentration in Subject Area, 21 hours

This alternative is recommended for persons who wish to extend their competencies in a particular subject area, but do not seek additional certification at this time. Students should see the coordinator of Elementary Education for specific subject area requirements.

Directed Institutional Requirement	Semester Hours
CSIS 44-130 Computers and Information Technology	3

Required Courses	Semester Hours
CSIS 44-211 Spreadsheets	1
CSIS 44-212 Advanced Spreadsheets and Charting	1
CSIS 44-221 Web Page Development	1
CSIS 44-245 DigiTools	3
CSIS 44-320 Advanced Word Processing	1
CSIS 44-330 Presentation Graphics	1
CSIS 44-340 Digital Media	1
CSIS 44-346 Database Applications	1
CSIS 44-471 Practicum in Computer Science Teaching 1	1
CSIS 44-471 Practicum in Computer Science Teaching 1	1
Advisor-Approved Electives	6
CSIS 44-140 Visual Basic Application Programming (3)	
CSIS 44-312 Information Technology Hardware & Software (3)	
CSIS 44-333 Multimedia and Web Development (3)	
CSIS 44-344 Desktop Publishing (3)	
Total Endorsement Requirements	21

Minor in Database Management Systems, 21 hours

Directed Institutional Requirement	Semester Hours
CSIS 44-130 Computers and Information Technology	3
Required Courses	Semester Hours
CSIS 44-141 Computer Programming I	3
CSIS 44-241 Computer Programming II	3
CSIS 44-460 Database Systems	3
CSIS 44-540 Visual Application Development	3
CSIS 44-560 Advanced Topics in Database Systems	3
CSIS 44-563 Web Services Technology	3
Choose three hours of electives:	3
CSIS 44-242 Data and File Structures (3)	
CSIS 44-250 COBOL Programming (3)	
CSIS 44-411 Systems Analysis and Design (3)	
Total Minor Requirements	21

NOTES: 1) CSIS 44-241 has a prerequisite of Math 17-110, 114 or 118. 2) CSIS 44-411 has a prerequisite of Mgmt 54-313 and CSIS 44-317. 3) Grade Requirement: Students must earn a grade of "C" or better in each of the Computer Science courses in the 21-hour minor.

Minor in Computer Applications, 24 hours

Required Courses	Semester Hours
CSIS 44-130 Computers and Information Technology	3
CSIS 44-140 Visual Basic Application Programming	3
CSIS 44-211 Spreadsheet Applications	1
CSIS 44-212 Advanced Spreadsheets and Charting	1
CSIS 44-245 DigiTools	3
CSIS 44-320 Advanced Word Processing	1
CSIS 44-330 Presentation Graphics	1
CSIS 44-333 Multimedia and Web Development	3
CSIS 44-340 Digital Media	1

CSIS 44-344 Desktop Publishing	3
CSIS 44-346 Database Applications	1
Select at least three hours from the following electives:	3
CSIS 44-143 Script Programming I (3)	
CSIS 44-312 Information Technology Hardware & Software (3)	
CSIS 44-356 CCNA: Network Fundamentals (3)	
Total Minor Requirements	24

NOTE: Students with a Comprehensive Major in Office Information Systems are not permitted to minor in Computer Applications.

Minor in Systems Management, 25 hours

Required Courses	Semester Hours
CSIS 44-130 Computers and Information Technology	3
CSIS 44-140 Visual Basic Application Programming OR	
CSIS 44-141 Computer Programming I	3
CSIS 44-296 Professional Development Seminar	1
CSIS 44-317 Management Information Systems	3
CSIS 44-411 Systems Analysis and Design	3
CSIS 44-418 Information Technology Project Management	3
Acct 51-201 Accounting I	3
Mgmt 54-313 Principles of Management	3
Mkt 55-330 Principles of Marketing	3
Total Minor Requirements	25

Minor in Interactive Digital Media, 24 hours

This is an interdisciplinary minor in conjunction with Art, Computer Science/Information Systems and Mass Communication.

Directed Institutional Requirement

CSIS 44-130 Computers and Information Technology	3
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Required Courses	Semester Hours
Art 13-191 Introduction to Design	3
Art 13-292 Introduction to Creative Electronic Imaging	3
MC 20-243 Media Design I	3
MC 20-303 Introduction to Web Publishing	3
CSIS 44-143 Script Programming I	3
CSIS 44-333 Multimedia and Web Development	3

Electives (Select any six hours from the following): 6

Art 13-120 Drawing (3)	
Art 13-207 Digital Photography (3)	
MC 20-301 Multimedia Audio/Video Production (3)	
MC 20-334 Multimedia Production (3)	
CSIS 44-141 Computer Programming I (3)	
CSIS 44-335 Script Programming II (3)	

Total Minor Requirements 24

Minor in Geographic Information Systems, 28 hours

This is an interdisciplinary minor in conjunction with Computer Science/Information Systems and Geography.

Directed Institutional Requirement

CSIS 44-130 Computers and Information Technology	3
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Required Courses	Semester Hours
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Geography

Geog 32-201 Maps and Map Interpretation	3
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Geog 32-365 Geographic Information Systems	3
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Geog 32-565 Advanced Geographic Information Systems	3
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Computer Science

CSIS 44-140 Visual Basic Application Programming	3
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CSIS 44-141 Computer Programming I	3
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CSIS 44-241 Computer Programming II	3
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CSIS 44-346 Database Applications	1
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CSIS 44-460 Database Systems	3
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Advisor-Approved Electives	6
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Geog 32-362 Cartography (3)	
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Geog 32-363 Remote Sensing (3)	
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Geog 32-562 Advanced Cartography (3)	
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Geog 32-563 Digital Image Processing (3)	
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CSIS 44-242 Data and File Structures (3)	
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CSIS 44-320 Advanced Word Processing (1)	
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CSIS 44-330 Presentation Graphics (1)	
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CSIS 44-340 Digital Media (1)	
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CSIS 44-540 Visual Application Development (3)	
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CSIS 44-590 Current Topics in Computer Science (1-3)	
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Total Minor Requirements	28
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NON-DEGREE PROGRAMS

The Melvin D. and Valorie G. Booth College of Business and Professional Studies offers a two-year office systems program and a two-year medical administrative assistant program. On the successful completion of a program, the student is awarded a certificate. Unless otherwise noted, all 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. A student must maintain a "C" average. All non-degree programs in the Computer Science/Information Systems department require CSIS 44-130 Computers and Information Technology, as a prerequisite course as required by course descriptions.

Office Systems Certificate, 60 hours

Required Courses	Semester Hours
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76-101 Freshman Seminar	1
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Psych 08-103 General Psychology	3
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Eng 10-111/112 Composition OR	
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ACT English credit/10-115 Honors Composition	6
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CSIS 44-130 Computers and Information Technology	3
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CSIS 44-211 Spreadsheet Applications	1
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CSIS 44-212 Advanced Spreadsheets and Charting	1
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CSIS 44-221 Web Page Development	1
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CSIS 44-245 DigiTools	3
CSIS 44-320 Advanced Word Processing	1
CSIS 44-330 Presentation Graphics	1
CSIS 44-340 Digital Media	1
CSIS 44-343 Virtual Workplace	3
CSIS 44-346 Database Applications	1
Com 29-102 Fundamentals of Oral Communication	3
Acct 51-201 Accounting I	3
Acct 51-202 Accounting II	3
Fin 53-311 Business Law I	3
Mgmt 54-310 Managerial Communication	3
Mgmt 54-313 Principles of Management	3
Advisor approved electives to total 60 hours	16

Required courses plus advisor-approved electives to total 60 hours with a 2.00 grade point average.

Information Systems Certificate, 15 hours

Required Courses	Semester Hours
CSIS 44-130 Computers and Information Technology	3
CSIS 44-140 Visual Basic Application Programming	3
CSIS 44-320 Advanced Word Processing	1
CSIS 44-330 Presentation Graphics	1
CSIS 44-333 Multimedia and Web Development	3
CSIS 44-340 Digital Media	1
CSIS 44-344 Desktop Publishing	3

Medical Administrative Assistant, 60 hours

The Medical Administrative Assistant Program is in cooperation with the Department of Biological Sciences. Requirements for the Two-Year Medical Administrative Assistant Certificate are:

Required Courses	Semester Hours
76-101 Freshman Seminar	1
Bio 04-102/103 General Biology and Lab	4
Bio 04-104 Medical Terminology	3
Bio 04-114/115 General Zoology and Lab	4
Bio 04-140 General Microbiology	4
Bio 04-436 Human Anatomy	4
Eng 10-111/112 Composition OR ACT English credit/10-115 Honors Composition	6
Math 17-118 College Algebra	3
Chem 24-112/113 General Chemistry and Lab	4
CSIS 44-130 Computers and Information Technology	3
CSIS 44-211 Spreadsheet Applications	1
CSIS 44-212 Advanced Spreadsheets and Charting	1
CSIS 44-245 DigiTools	3
CSIS 44-320 Advanced Word Processing	1
CSIS 44-330 Presentation Graphics	1
CSIS 44-340 Digital Media	1
CSIS 44-343 Virtual Workplace	3
CSIS 44-346 Database Applications	1

Acct 51-201 Accounting I	3
Mgmt 54-310 Managerial Communication	3
Mgmt 54-313 Principles of Management	3
Choose three hours from the following:	3
CSIS 44-221 Web Page Development (1)	
Bio 04-293 Medical Transcription and Medical Records Practicum (2)	
Fin 53-311 Business Law I (3)	
Psych 08-103 General Psychology (3)	
Total Hours Required	60

Course Descriptions

Computer Science/ Information Systems / 44

130 Computers and Information Technology (3 hours)

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

495 Internship in Computer Science/ Information Systems (1-3 hours)

Prerequisites: 9 hours in computer science/information systems and permission of department chairperson. (F, S)

499 Independent Study (1-3 hours)

Prerequisite: Consent of instructor (F, S)

599 Special Projects (1-6 hours)

Prerequisites: 30 hours in the department and consent of instructor. (F, S)

COMPUTER SCIENCE

140 Visual Basic Application Programming (3 hours)

An introduction to event-driven programming in an object-oriented environment. Prerequisites: 2 units of high school algebra and CSIS 44-130 with a grade of "C" or better, or department chair's permission. (F, S)

141 Computer Programming I (3 hours)

An introduction to object-oriented programming; analyze problems, design and implement solutions. Prerequisites: 2 units of high school algebra and CSIS 44-130 with a grade of "C" or better, or department chair's permission. (F, S)

149 Scientific Computing (3 hours)

Tools and techniques for using a computer to solve numeric problems with an emphasis on scientific and mathematical applications. Prerequisites: Math 17-117 or 17-120 and a course in the computer competency section of Institutional Requirements with a grade of "C" or better in each. (S)

239 Java as a Second Language (4 hours)

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 CSIS 44-241. Prerequisite: A two-semester sequence in a programming language other than Java.

241 Computer Programming II (3 hours)

Intermediate computer programming, design of algorithms and introduction to data structures. Prerequisites: CSIS 44-141, and Math 17-110 or 114 or 117 or 118 or 120, with a grade of "C" or better. (F, S)

242 Data and File Structures (3 hours)

Abstract data structures including stacks, queues, lists and trees. File structures emphasizing random access files. Construction of graphical user interfaces. Prerequisite: CSIS 44-241, with a grade of "C" or better, or consent of instructor. (F, S)

250 COBOL Programming (3 hours)

Structured COBOL and its applications to programming business information systems. Prerequisite: CSIS 44-241, with a grade of "C" or better, or consent of instructor. (F)

296 Professional Development Seminar (1 hour)

Emphasis on ethical issues in the workplace and professional development for the field of computing. Prerequisite: Sophomore standing. (F)

325 Programming Languages (3 hours)

A survey of the features of contemporary programming languages chosen to illustrate two different programming paradigms. Extensive programming in each of the languages. Prerequisite: CSIS 44-242, with a grade of "C" or better. (S)

345 Computer Organization I (3 hours)

Introduction to computer systems organization with emphasis on machine language and assembler programming. Prerequisites: CSIS 44-242, with a grade of "C" or better, and one trimester of chemistry, physics or physical science. (S)

349 A Survey of Algorithms (3 hours)

A study of algorithms central to the major areas of computer science. Prerequisites: CSIS 44-242 and Math 17-120 and 215, each with a grade of "C" or better. (S)

356 CCNA: Network Fundamentals (3 hours)

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. Prerequisite: CSIS 44-130 with a grade of "C" or better. (F)

358 CCNA: Routing Protocols and Concepts (3 hours)

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. Prerequisite: CSIS 44-356 with a grade of "C" or better. (S)

445 Computer Organization II (3 hours)

A continuation of CSIS 44-345 with emphasis on processor design, pipelining, memory hierarchy and input/output. Prerequisite: CSIS 44-345, with a grade of "C" or better. (F)

450 Operating Systems (3 hours)

Course covers concepts of operating systems, including process and storage management, protection, security and distributed systems. Prerequisite: CSIS 44-345, with a grade of "C" or better. (S)

456 CCNA: LAN Switching and Wireless (3 hours)

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. Prerequisite: CSIS 44-358 with a grade of "C" or better. (F)

458 CCNA: Accessing the Wide Area Network (3 hours)

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. Prerequisite: 44-456 with a grade of "C" or better. (S)

460 Database Systems (3 hours)

An introduction to database systems, including data modeling, design, and implementation. Prerequisite: CSIS 44-241, with a grade of "C" or better. (F, S)

471 Practicum in Computer Science Teaching (1 hour)

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. Prerequisites: 10 hours of computer science and 5 hours of education. (F, S)

525 Theory and Implementation of Programming Languages (3 hours)

Syntax and semantics of programming languages; the translation process; and features of procedural, applicative, and object-oriented languages. Prerequisite: CSIS 44-242, with a grade of "C" or better, or consent of instructor. (F)

540 Visual Application Development (3 hours)

An introduction to programming Microsoft Windows applications. Prerequisite: CSIS 44-460, or CSIS 44-241 and 346, with a grade of "C" or better; or equivalent (prerequisite may be taken concurrently). (S)

555 Server Applications and Network Security (3 hours)

A study of computer network security issues. Includes hands-on experience in server applications as well as some practice in client/server programming. Prerequisite: CSIS 44-356, with a grade of "C" or better. (S)

560 Advanced Topics in Database Systems (3 hours)

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. Prerequisite: CSIS 44-460, with a grade of "C" or better or graduate standing with some prior database experience. (S)

561 Software Engineering I (3 hours)

A study of systems analysis, requirements specification, and human computer interaction. Prerequisites: CSIS 44-242 and 460, with a grade of "C" or better. (F)

562 Software Engineering II (3 hours)

A study software design, testing and project management. Prerequisite: CSIS 44-561, with a grade of "C" or better. (S)

563 Web Services Technology (3 hours)

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. Prerequisites: CSIS 44-241 and 460, each with a grade of "C" or better. (F)

590 Current Topics in Computer Science (1-3 hours)

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. Prerequisite dependent upon topic.

INTERACTIVE DIGITAL MEDIA**143 Script Programming I (3 hours)**

An introduction to a script language for multimedia software applications. Prerequisite: CSIS 44-130. (F)

333 Multimedia and Web Development (3 hours)

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. Prerequisites: CSIS 44-130. (F, S)

335 Script Programming II (3 hours)

An introduction to a scripting language that enables web browser interactivity. Prerequisites: CSIS 44-333 and some previous programming experience (CSIS 44-141 or 143 for example) is required. (S)

415 Interactive Digital Media Seminar (1 hour)

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. Prerequisites: Junior or senior standing by advisement. (F)

MANAGEMENT INFORMATION SYSTEMS

312 Information Technology Hardware and Software (3 hours)

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. Prerequisite: CSIS 44-130. (S)

317 Management Information Systems (3 hours)

A study of business systems and their relationship with computer systems. The interaction of various systems of the organization and computer technology is emphasized. Prerequisites: Mgmt 54-313, CSIS 44-130. (F, S)

411 Systems Analysis and Design (3 hours)

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. Prerequisites: CSIS 44-317, and advanced standing, or consent of the instructor. (F)

418 Information Technology Project Management (3 hours)

A detailed study of project management including life cycle, scope, integration, controls and the use of project management software. Prerequisite: CSIS 44-317 and 44-411 with a grade of "C" or better. (S)

516 Current Topics in Information Systems (1-3 hours)

Selected topics in information systems emphasizing current development in the field. May be repeated provided the content is different. Prerequisites: CSIS 44-317 and one high-level programming language or consent of instructor.

OFFICE INFORMATION SYSTEMS

211 Spreadsheet Applications (1 hour)

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. Prerequisite: CSIS 44-130 with a grade of "C" or better, or equivalent course.. (S)

212 Advanced Spreadsheets and Charting (1 hour)

A course on the intensive use of spreadsheet features such as using templates, data consolidation, macros, solver, scenarios, and pivot tables and charts. Prerequisites: CSIS 44-130 with a grade of "C" or better, or equivalent course, and 44-211. (S)

221 Web Page Development (1 hour)

Application of web authoring program to develop, create and maintain a web page. Program used will parallel that found in industry. Prerequisite: CSIS 44-130 with a grade of "C" or better, or equivalent course.. (F)

245 DigiTools (3 hours)

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. (F)

320 Advanced Word Processing (1 hour)

Advanced word processing skills and concepts will be emphasized to manipulate, organize, and enhance documents. Prerequisite: CSIS 44-130 with a grade of "C" or better, or equivalent course. (S)

330 Presentation Graphics (1 hour)

Concepts, design elements, and preparation of presentation graphics. Projects with electronic presentation and imaging software will be completed. Prerequisite: CSIS 44-130 with a grade of "C" or better, or equivalent course. (S)

340 Digital Media (1 hour)

Designing and using digital media to produce multimedia projects with audio and video. Prerequisite: CSIS 44-130 with a grade of "C" or better, or equivalent course. (S)

343 Virtual Workplace (3 hours)

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. Prerequisite: CSIS 44-130 with a grade of "C" or better, or equivalent course. (S, odd years)

344 Desktop Publishing (3 hours)

Course will identify the concepts and applications of desktop publishing and develop competencies using a powerful computer language as a desktop publishing tool. Prerequisite: CSIS 44-130 with a grade of "C" or better, or equivalent course. (F)

346 Database Applications (1 hour)

Applications of database management software for creating, querying and manipulating databases. Prerequisite: CSIS 44-130 with a grade of "C" or better, or equivalent course. (F, S)

447 Current Topics in Office Information Systems (1-3 hours)

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

BUSINESS EDUCATION**580 Methods of Teaching Business and Marketing (3 hours)**

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

582 Technology Curriculum and Integration (3 hours)

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. (F, odd years)

584 Implementing Business and Marketing Education Programs (3 hours)

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. (SS)

Department of Marketing / 55 and Management / 54

Chairperson: Chi Lo Lim

Faculty: Terry Coalter, Ron C. DeYoung, Steven Gilbert, Brenda Jones, Cindy Kenkel, Janet Marta, Jeff Nickerson, Deborah Toomey, Lisa Phillips, Doug Russell, Allison Strong, Tekle Wanorie, Brett Ware, James L. Walker

Statement of Mission

The Department of Marketing and Management's mission is to advance knowledge through a balance of teaching, scholarly activity and service. The faculty in the department provide relevant and quality educational experiences for students which are intended to assist in lifelong learning. The department places great importance on developing each student's ability to think critically, to advance intellectually and to communicate effectively. Students majoring in one of the options offered by the department will have numerous opportunities and avenues to prepare them for ethical participation in the global arena of business and/or organizational life.

DEGREE PROGRAMS

The Department of Marketing and Management offers programs leading to the Bachelor of Science degree. All majors in Business Management, Marketing and International Business must complete at least 34 hours of the comprehensive major from Northwest. Students majoring in Business Management, International Business or Marketing must earn a grade of "C" or better in all Common Professional Component courses (all those listed on page 233) as well as all major courses (any course applied to the 24-credit hour major with the exception of Mkt 55-440 Business Study Abroad.) All degree programs are ACBSP accredited. Students may select from three comprehensive majors offered by this department:

1. Business Management
2. International Business
3. Marketing

Each major is designed to prepare students for their professional career choice by providing them with the critical thinking capabilities and communication skills required for success in today's business world. The variety of majors in the department permits the student a wide range of choices. These alternatives vary from the opportunities of entrepreneurship to the challenges of corporate positions. In addition, the focus of the major may be domestic or international in orientation. Thus, students majoring in management, international business or marketing will have numerous opportunities and avenues which will prepare them for participation in the world of business.

In addition, the Department of Marketing and Management offers the Minor in General Business to students who major in another discipline. This alternative permits students to gain exposure to the principles and fundamental concepts of business while pursuing a non-business major.

Advanced Standing Requirement

To ensure students have the necessary tools to begin study in the selected major, the Department of Marketing and Management requires that students must meet certain requirements before enrolling in advanced coursework. Students making application to major in Business Management, International Business or Marketing must achieve Advanced Standing. Failure to achieve Advanced Standing will prohibit the student from graduating with a degree granted by Northwest's Marketing and Management Department.

To have achieved Advanced Standing, the student must:

1. Maintain at least a cumulative 2.00 GPA
2. Score at Level 1 or higher on all areas of the Academic Profile
3. Earn at least a grade of "C" or better in **each** of the five courses listed below:

Math 17-114 General Statistics I	3
Math 17-118 College Algebra	3
Acct 51-201 Accounting I	3
Econ 52-150 General Economics I	3
Econ 52-151 General Economics II	3
Total	15

Students who have met this Advanced Standing requirement are official members of the department and can pursue any major course of their choosing. Students who have not successfully achieved Advanced Standing prior to becoming an academic senior *(90 or more academic credit hours) will be **prohibited from enrolling in any major course** until they have achieved Advanced Standing.

*In exceptional cases, a student not meeting the "90-hour rule" may appeal to the department's Advanced Standing Committee.

MAJORS

Comprehensive Major in Business Management: B.S.– No Minor Required

Students choosing a Comprehensive Major in Business Management must complete the common professional component courses outlined on page 233, and fulfill the following major requirements:

Required Courses	Semester Hours
Mgmt 54-314 Human Resource Management	3
Mgmt 54-316 Organizational Behavior and Theory	3
Acct 51-408 Managerial Accounting	3
Mgmt 54-413 Business and Society	3
Students must take two of the following:	6
Econ 52-354 Labor Economics (3)	
Mgmt 54-318 Entrepreneurship (3)	
Mgmt 54-320 Negotiations (3)	
Recommended Electives	6
Any 300- or 400-level business course OR other 300- or 400-level advisor-approved elective	
Total Major Requirements	24

ACBSP accredited program.

Comprehensive Major in International Business: B.S.– No Minor Required

Students choosing a Comprehensive Major in International Business must take the common professional component courses outlined on page 233 plus fulfill the following major requirements:

Required Courses	Semester Hours
Econ 52-450 International Economics	3
Mkt 55-431 Logistics Management OR Mkt 55-434 Marketing Management	3
Acct 51-408 Managerial Accounting	3
Mgmt 54-436 Multinational Management	3
International Experience	6
Six hours of business credit which may include courses of study and/or internship <u>in a foreign country</u> .	
Exemptions from the foreign study requirement are available <u>only</u> with chairperson approval.	
International students may choose to fulfill this requirement through internships or other business courses at Northwest.	
Cultural Understanding	6
Students must complete six hours according to Option A or B (Option B required unless fluent in foreign language) based upon advisor direction.	
Option A – Global Political Economy	
PolS 34-525 Transnational Politics (3)	
PolS 34-421 International Relations (3)	
OR	
Option B – Foreign Language	
Six hours above the introductory level; specifically, above the following: French (Lang 14-131) and Spanish (Lang 14-141).	
Total Major Requirements	24

Comprehensive Major in Marketing: B.S.–No Minor Required

Students choosing a Comprehensive Major in Marketing must complete the common professional component courses outlined on page 233 and fulfill the following major requirements:

Required Courses	Semester Hours
Acct 51-408 Managerial Accounting	3
Mkt 55-333 Consumer Behavior	3
Mkt 55-430 Sales and Sales Management	3
Mkt 55-432 Marketing Research	3
Mkt 55-434 Marketing Management	3
Student must take two of the following:	6
Mkt 55-331 Retailing (3)	
Mkt 55-332 Promotion (3)	
Mkt 55-431 Logistics Management (3)	
Recommended Electives	3
Math 17-316 General Statistics II (3)	
MC 20-243 Media Design I (3)	

ACBSP accredited program.

MC 20-343 Media Design II (3)
 MC 20-353 Principles of Print Advertising (3)
 Com 29-325 Listening Behavior and Skills (3)
 Com 29-330 Semantics and Linguistics (3)
 Econ 52-458 Forecasting Business Conditions (3)
 Mgmt 54-314 Human Resource Management (3)
 Mgmt 54-316 Organizational Behavior and Theory (3)
 Mkt 55-435 Intern in Marketing (1-3)
 Other advisor-approved electives (3)

Total Major Requirements

24

MINOR

Minor in General Business, 24 hours

Students choosing the Minor in General Business must take the following courses:

Required Courses	Semester Hours
Acct 51-201 Accounting I	3
Acct 51-202 Accounting II	3
Econ 52-151 General Economics II (Microeconomics)	3
Fin 53-311 Business Law I	3
Fin 53-324 Fundamentals of Business Finance	3
Mgmt 54-310 Managerial Communication	3
Mgmt 54-313 Principles of Management	3
Mkt 55-330 Principles of Marketing	3
Total Minor Requirements	24

Students with a comprehensive major in any business discipline requiring the common professional component are not permitted to minor in general business. This minor is intended for non-business majors.

Course Descriptions

Management / 54

310 Managerial Communication (3 hours)

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 communicative styles to various situations. The student must complete 40 hours before enrolling in this course. Prerequisites: Com 29-102, Eng 10-112 or 115. (F, S)

313 Principles of Management (3 hours)

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. Prerequisite: Completion of a minimum of 30 academic hours. (F, S)

314 Human Resource Management (3 hours)

A study of objectives, functions and organization of typical human resource management, emphasizing job analysis, selection and placement; education and training; safety and health; employee service; administration of wages and benefits; labor legislation; and personnel research. Prerequisite: Mgmt 54-313 or consent of instructor. (F, S)

315 Operations Management (3 hours)

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. Prerequisites: Mgmt 54-313, Math 17-114, 118, or consent of instructor. (F, S)

316 Organizational Behavior and Theory (3 hours)

The application of principles and concepts of the behavioral sciences and total quality management to the interpersonal relationships found within modern organizations. As quality management practices replace authoritarian structures with more democratic processes, a need to stress continuous improvement, self-regulation of work content and structure within a job, self-evaluation of performance, self-adjustment in response to work system variability, and participation in the setting of job goals or objectives are seen as the key to effective managerial behavior. Prerequisite: Mgmt 54-313. (F, S)

318 Entrepreneurship (3 hours)

A course designed to aid the prospective small business owner in deciding whether or not to start a service or retail business, become aware of the pitfalls and failure, and understand how various decisions in business might be made to increase chances of success. The small business will be compared and contrasted with the larger corporation on several topics. Prerequisite: Mgmt 54-313 or consent of instructor. (F)

320 Negotiations (3 hours)

A study of the theoretical and practical perspectives of the various negotiation process strategies and tactics found in the contemporary business and social setting. Emphasis will be placed on the preparation element of the negotiation process, distributive and integrative negotiation techniques, along with developing negotiation styles, relational trust building, power, persuasion and ethics, creativity and problem-solving in negotiations, multi-party

and multi-cultural negotiations. Prerequisite: Mgmt 54-313. (S)

340 Special Topics in Business (1-3 hours)

Provides concentrated study on a special topic in one of the areas in the Melvin D. and Valorie G. Booth College of Business and Professional Studies. Topics will vary.

413 Business and Society (3 hours)

Economic, social, technological and ethical problems facing American business and its leaders in the 21st century. Prerequisites: Mgmt 54-313 and senior standing. (F, S)

415 Intern in Management (1-3 hours)

Students with junior or senior standing, with the permission of the chairperson, may enroll in an intern program with an approved business concern. Prerequisites: Mgmt 54-313 and a 2.5 GPA. (F, S, SS)

417 Organizational Policy and Decision-Making (3 hours)

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. Prerequisite: Senior standing, Econ 52-150 and 151, completion of all 200- and 300-level common professional component courses, and Mkt 55-438. (F, S)

419 Independent Study in Management (1-3 hours)

A course to provide students with an opportunity to study a particular problem or pursue an independent reading program. Must have permission of chairperson. Prerequisite: Mgmt 54-313. (F, S, SS)

436 Multinational Management (3 hours)

A course to provide an understanding of the operations of multinational corporations. It will concentrate on the decision making process as related to the planning, organizing and controlling of multinational operations. Specifically, this includes differences in operation overseas, political risks, international finance, trade and trade barriers, joint ventures, partnerships and human resource planning. Prerequisite: Mgmt 54-313. (S)

440 Employment Strategy (1 hour)

A study of strategies in the employment seeking process. Topics include resumes, letters of ap-

plication, interviewing, networking and research techniques. Prerequisite: Senior standing or consent of instructor.

Marketing / 55

330 Principles of Marketing (3 hours)

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. Prerequisite: Completion of a minimum of 30 academic hours. (F, S)

331 Retailing (3 hours)

A strategic approach to retailing which concentrates on planning to meet the objectives of the retail concept. Specifically this includes planning and organizing the retail firm, planning and managing merchandise, on-line retailing, understanding and communicating with the consumer, choosing a store location, developing store personnel, pricing retail merchandise and integrating and controlling the retail strategy. Prerequisite: Mkt 55-330. (F, S)

332 Promotion (3 hours)

A study of that element of the marketing mix that relates to persuasive communication with prospective stakeholders of the firm. Specifically this includes an analysis of advertising, personal selling, publicity, direct marketing, Internet marketing and sales promotion. Prerequisite: Mkt 55-330. (F, S)

333 Consumer Behavior (3 hours)

An interdisciplinary behavioral approach to understanding the consumer. Consideration is given to consumer psychological, sociological and cultural processes as they relate to the development of marketing strategies. Prerequisite: Mkt 55-330. (F, S)

430 Sales and Sales Management (3 hours)

A study in the art of selling and the sales process in addition to the managerial aspects of sales management such as planning, organizing, staffing and supervising the sales effort. Prerequisites: Mkt 55-330 or Ag 03-302. (F, S)

431 Logistics Management (3 hours)

An analysis of the physical distribution function in marketing with emphasis on channel structure and relationships, transportation, inventory analysis,

warehousing, communication and information flow, and facility analysis as elements of an integrated system. Prerequisite: Mkt 55-330. (F)

432 Marketing Research (3 hours)

An analysis of the various methods and techniques available for collection and interpretation of data as they apply to marketing research. Prerequisites: Math 17-114 and Mkt 55-330. (F, S)

434 Marketing Management (3 hours)

The major areas of marketing are examined from the viewpoint of the marketing executive. Emphasis is given to consumer analysis, market research, product planning, channels of distribution, promotion, pricing and the integration of the above in the development of the total marketing program. Requires a major team project, requiring comprehensive marketing analysis. Prerequisites: Mkt 55-330 and senior standing. (F, S)

435 Intern in Marketing (1-3 hours)

Students with junior or senior standing with the permission of the chairperson may enroll in an intern program with an approved business concern. Prerequisites: Mkt 55-330 and a minimum 2.5 cumulative GPA. (F, S, SS)

438 International Business (3 hours)

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. (F, S)

439 Independent Study in Marketing (1-3 hours)

A course to provide students with an opportunity to study a particular problem or pursue an independent reading program or research program in marketing. Must have permission of chairperson. (F, S, SS)

440 Business Study Abroad (1-6 hours)

Courses taken in a foreign country, which encompass a wide variety of business concepts and applications. May include internships taken abroad and special independent study projects. The number of hours assigned will be determined by the student's advisor and the department chair, based upon the rigor and length of the course or extent of the internship.

Department of Mass Communication / 20

Chairperson: Jody Strauch

Faculty: Eric Covil, Fred Lamer, Jacquie Lamer, Jason Offutt, Matthew Rouch, Doug Sudhoff, Laura Widmer

Staff: Marla McCrary, Will Murphy, Sarah Wayman

The Department of Mass Communication offers undergraduate programs of study in the areas of electronic media, print media, advertising and interactive digital media. In harmony with the mission of the Melvin D. and Valorie G. Booth College of Business and Professional Studies, students majoring in mass communication develop not only communication skills (verbal, written, listening and interpersonal) but also critical thinking skills and equipment operation skills, including computers. Careful attention is given to achieving a balance between cognitive development and specific skills acquisition. Therefore, students also develop a broad understanding and appreciation of the historical, theoretical and operational nature of the mass media.

In addition, students are encouraged at the very beginning of their University experience to become involved with a variety of hands-on activities with award-winning media outlets KZLX-LP/KDLX, KXCV/KRNW-FM, KNWT-TV, *Northwest Missourian* newspaper, *nwmisourinews.com* (converged online newspaper), *Tower* yearbook and DVD supplement, *Heartland View* online magazine and student media organizations. These experiences lead to a realistic view of professional working conditions. Students are further guided in the acquisition of appropriate time management, adaptation and teamwork skills.

Advanced Standing Requirement

Broadcasting, journalism, and advertising majors may not enroll in upper division mass communication courses (numbered 300 or above) prior to successful completion of the Department of Mass Communication's advanced standing requirements:

1. Journalism majors must complete MC 20-120, 130, and 227 with minimum grade of "C;"
2. Broadcast majors must complete MC 20-111, 120 and 130 with minimum grade of "C;"
3. Advertising majors must complete MC 20-111, 130 and 230 with minimum grade of "C;"
4. The student shall have an assigned major advisor from the Department of Mass Communication faculty.

Academic Profile Requirement

Students must receive a score of at least 1 in two of the three test areas or they must retake the Academic Profile Test, an assessment given when the student reaches junior status. Students not reaching this requirement will be notified by either their advisor or the department chairperson. It is the student's responsibility to arrange for retaking the Academic Profile Test.

DEGREE PROGRAMS

The Bachelor of Arts in Broadcasting (31 hours) and Journalism (31 hours) are designed to provide students with theoretical and applied knowledge and a liberal arts education through the requirements for the B.A. degree.

The Bachelor of Science in Broadcasting (37 hours), in Journalism (37 hours), in Applied Advertising (37 hours), in Advertising (61 hours), and in Interactive Digital Media (61 hours) are available to those seeking the B.S. degree. In addition to providing a comprehensive theoretical foundation within the discipline, these degrees provide extensive practical knowledge and experience.

A Minor in Broadcasting (24 hours), a Minor in Journalism (24 hours), a Minor in Visual Journalism (24 hours), a Minor in Advertising (24 hours), and an interdisciplinary Minor in Interactive Digital Media (24 hours) are available to students with majors in other academic disciplines.

MAJORS

Major in Broadcasting, 31 hours: B.A.—Minor Required

Required Courses	Semester Hours
MC 20-111 Introduction to Broadcast Operations	3
MC 20-120 Introduction to Mass Media	3
MC 20-130 Professional Media Writing	3
MC 20-227 Reporting	3
MC 20-313 Principles of Broadcast Advertising	3
MC 20-314 Communication Law	3
MC 20-317 Media Criticism and Responsibility	3
MC 20-320 Theories of Mass Communication	3
MC 20-409 Media Leadership	3
MC 20-412 Comparative Mass Media Systems	3
MC 20-416 Senior Seminar	1

Major in Broadcasting, 37 hours: B.S.—Minor Required

Required Courses	Semester Hours
MC 20-111 Introduction to Broadcast Operations	3
MC 20-120 Introduction to Mass Media	3
MC 20-130 Professional Media Writing	3
MC 20-224 Radio Production	3
MC 20-225 Television Production	3
MC 20-227 Reporting	3
MC 20-313 Principles of Broadcast Advertising	3
MC 20-314 Communication Law	3
MC 20-315 Broadcast Journalism	3
MC 20-317 Media Criticism and Responsibility	3
MC 20-320 Theories of Mass Communication	3
MC 20-409 Media Leadership	3
MC 20-416 Senior Seminar	1

Major in Journalism, 31 hours: B.A.—Minor Required

Required Courses	Semester Hours
MC 20-120 Introduction to Mass Media	3
MC 20-130 Professional Media Writing	3
MC 20-227 Reporting	3
MC 20-243 Media Design	3
MC 20-314 Communication Law	3
MC 20-315 Broadcast Journalism	3
MC 20-317 Media Criticism and Responsibility	3
MC 20-320 Theories of Mass Communication	3
MC 20-327 Advanced Reporting	3
MC 20-352 Editing	3
MC 20-416 Senior Seminar	1

Major in Journalism, 37 hours: B.S.—Minor Required

Required Courses	Semester Hours
MC 20-120 Introduction to Mass Media	3
MC 20-130 Professional Media Writing	3
MC 20-227 Reporting	3
MC 20-243 Media Design	3
MC 20-314 Communication Law	3
MC 20-315 Broadcast Journalism	3
MC 20-317 Media Criticism and Responsibility	3
MC 20-320 Theories of Mass Communication	3
MC 20-327 Advanced Reporting	3
MC 20-352 Editing	3
MC 20-358 Feature Writing	3
MC 20-416 Senior Seminar	1
Three hours from the following:	3
MC 20-150 Journalism Practicum (Yearbook) (1)	
MC 20-151 Journalism Practicum (Newspaper) (1)	
MC 20-350 Advanced Journalism Practicum (Yearbook) (2)	
MC 20-351 Advanced Journalism Practicum (Newspaper) (2)	

Major in Applied Advertising, 37 hours: B.S.—Minor Required

Required Courses	Semester Hours
MC 20-111 Introduction to Broadcast Operations	3
MC 20-130 Professional Media Writing	3
MC 20-230 Introduction to Media Advertising	3
MC 20-243 Media Design	3
MC 20-303 Introduction to Web Publishing	3
MC 20-313 Principles of Broadcast Advertising	3
MC 20-314 Communication Law	3
MC 20-343 Advanced Media Design	3
MC 20-353 Principles of Print Advertising	3
MC 20-416 Senior Seminar	1
MC 20-430 Advanced Advertising Strategies	3

Three hours from the following:	3
MC 20-151 Journalism Practicum (Newspaper) (1)	
MC 20-351 Advanced Journalism Practicum (Newspaper) (2)	
MC 20-215 Practicum in Radio (1)	
MC 20-322 Advanced Practicum in Radio (2)	
MC 20-216 Practicum in Television (1)	
MC 20-326 Advanced Practicum in Television (2)	
Three hours from the following:	3
MC 20-317 Media Criticism and Responsibility (3)	
MC 20-409 Media Leadership (3)	
MC 20-452 Internship (3)	

Major in Advertising, 61 hours: B.S.—No Minor Required

Directed General Education Courses	Semester Hours
Econ 52-130 Survey of Economics OR	
Econ 52-150 General Economics I	3
Math 17-114 General Statistics I	3
Required Courses	
MC 20-111 Introduction to Broadcast Operations	3
MC 20-130 Professional Media Writing	3
MC 20-151 Journalism Practicum (Newspaper)	1
MC 20-230 Introduction to Media Advertising	3
MC 20-243 Media Design	3
MC 20-313 Principles of Broadcast Advertising	3
MC 20-343 Advanced Media Design	3
MC 20-351 Advanced Journalism Practicum (Newspaper)	2
MC 20-353 Principles of Print Advertising	3
MC 20-416 Senior Seminar	1
MC 20-430 Advanced Advertising Strategies	3
Acct 51-201 Accounting I	3
Acct 51-202 Accounting II	3
Fin 53-311 Business Law I	3
Fin 53-324 Fundamentals of Business Finance	3
Mgmt 54-313 Principles of Management	3
Mkt 55-330 Principles of Marketing	3
Mkt 55-332 Promotion	3
Mkt 55-333 Consumer Behavior	3
Mkt 55-430 Sales and Sales Management	3
Mkt 55-432 Marketing Research	3
Mkt 55-438 International Business	3
Total Hours	61

Comprehensive Major in Interactive Digital Media, 61 hours: B.S.—No Minor Required.

New Media Concentration

This is an interdisciplinary major in conjunction with the Art, Computer Science/Information Systems and Mass Communication departments. Three concentrations are available for this major: Computer Science Programming (Computer Science/Information Systems), New Media (Mass Communication) and Visual Imaging (Art).

This major requires CSIS 44-130 Computers and Information Technology as a prerequisite course as required by course descriptions.

Required Core Courses	Semester Hours
Art 13-191 Introduction to Design	3
Art 13-207 Digital Photography	3
Art 13-292 Introduction to Creative Electronic Imaging	3
Art 13-294 Letterforms and Graphic Design	3
MC 20-120 Introduction to Mass Media	3
MC 20-243 Media Design	3
MC 20-303 Introduction to Web Publishing	3
MC 20-314 Communication Law	3
CSIS 44-143 Script Programming I	3
CSIS 44-333 Multimedia and Web Development	3
CSIS 44-335 Script Programming II	3
Mkt 55-330 Principles of Marketing	3
Total Core Requirements	36
Required Courses for New Media Concentration:	
MC 20-130 Professional Media Writing	3
MC 20-150 Journalism Practicum (Yearbook) OR MC 20-151 Journalism Practicum (Newspaper)	1
MC 20-230 Introduction to Media Advertising	3
MC 20-301 Multimedia Audio/Video Production	3
MC 20-334 Multimedia Production	3
MC 20-343 Advanced Media Design	3
MC 20-354 Online Magazine Practicum	1
MC 20-403 Advanced Web Publishing OR MC 20-430 Advanced Advertising Strategies	3
MC 20-409 Media Leadership	3
MC 20-415 Interactive Digital Media Seminar	1
Choose one of the following courses:	1
MC 20-150 Journalism Practicum (Yearbook) (1)	
MC 20-151 Journalism Practicum (Newspaper) (1)	
MC 20-350 Advanced Journalism Practicum (Yearbook) (2)	
MC 20-351 Advanced Journalism Practicum (Newspaper) (2)	
MC 20-452 Internship (1)	
Total Concentration Hours	25

Concentration in Visual Imaging – see the Art Department

Concentration in Computer Science Programming – see the Computer Science/ Information Systems Department

MINORS

Minor in Broadcasting, 24 hours

Required Courses	Semester Hours
MC 20-111 Introduction to Broadcast Operations	3
MC 20-120 Introduction to Mass Media	3
MC 20-224 Radio Production	3
MC 20-225 Television Production	3

MC 20-313 Principles of Broadcast Advertising	3
MC 20-314 Communication Law	3
MC 20-317 Media Criticism and Responsibility	3
MC 20-320 Theories of Mass Communication	3

Students required to take MC 20-120, 314, 317 and 320 in partial fulfillment of a journalism major, must take 12 hours from the following:

MC 20-303 Introduction to Web Publishing	3
MC 20-315 Broadcast Journalism	3
And six hours from the following:	6
MC 20-329 Advanced Audio Production (3)	
MC 20-330 Advanced Television Production (3)	
MC 20-409 Media Leadership (3)	
MC 20-412 Comparative Mass Media Systems (3)	

Minor in Journalism, 24 hours

Required Courses	Semester Hours
MC 20-120 Introduction to Mass Media	3
MC 20-130 Professional Media Writing	3
MC 20-150 Journalism Practicum (Yearbook)	1
MC 20-151 Journalism Practicum (Newspaper)	1
MC 20-227 Reporting	3
MC 20-243 Media Design	3
MC 20-314 Communication Law	3
MC 20-320 Theories of Mass Communication	3
MC 20-350 Advanced Journalism Practicum (Yearbook) (2) OR MC 20-351 Advanced Journalism Practicum (Newspaper) (2)	1
MC 20-353 Principles of Print Advertising	3

Students required to take MC 20-120, 130, 227, 314 and 320 in partial fulfillment of a broadcasting major must take:

MC 20-327 Advanced Reporting	3
MC 20-343 Advanced Media Design	3
MC 20-352 Editing	3
And six hours from the following courses:	6
MC 20-230 Introduction to Media Advertising (3)	
MC 20-303 Introduction to Web Publishing (3)	
MC 20-355 Photojournalism (3)	
MC 20-358 Feature Writing (3)	
MC 20-401 Editorial Writing (3)	

Minor in Visual Journalism, 24 hours

Required Courses	Semester Hours
MC 20-243 Media Design	3
MC 20-255 Introduction to Visual Journalism	3
MC 20-303 Introduction to Web Publishing	3
MC 20-334 Multimedia Production	3
MC 20-343 Advanced Media Design	3
MC 20-355 Photojournalism	3
Journalism Practicum and/or Advanced Practicum (choose any combination):	3
MC 20-150 Journalism Practicum (Yearbook) (1)	

- MC 20-151 Journalism Practicum (Newspaper) (1)
- MC 20-350 Advanced Journalism Practicum (Yearbook) (2)
- MC 20-351 Advanced Journalism Practicum (Newspaper) (2)
- MC 20-354 Online Magazine Practicum (1)

Three hours from the following:

3

- MC 20-230 Introduction to Media Advertising (3)
- MC 20-301 Multimedia Audio/Visual Production (3)
- MC 20-353 Principles of Print Advertising (3)
- MC 20-403 Advanced Web Publishing (3)
- CSIS 44-143 Script Programming I (3)
- CSIS 44-333 Multimedia and Web Development (3)

Minor in Advertising, 24 hours**Required Courses****Semester Hours**

MC 20-111 Introduction to Broadcast Operations	3
MC 20-130 Professional Media Writing	3
MC 20-230 Introduction to Media Advertising	3
MC 20-243 Media Design	3
MC 20-313 Principles of Broadcast Advertising	3
MC 20-314 Communication Law	3
MC 20-353 Principles of Print Advertising	3
MC 20-430 Advanced Advertising Strategies	3

Students required to take MC-111, 130, 243, 313 and/or 314 in partial fulfillment of a Broadcasting or Journalism major must take the courses below to meet requirements for the Advertising minor.

Broadcasting majors:

MC 20-255 Introduction to Visual Journalism	3
MC 20-301 Multimedia Audio/Visual Production	3
MC 20-303 Introduction to Web Publishing	3
MC 20-334 Multimedia Production	3
MC 20-343 Advanced Media Design	3

Journalism majors:

MC 20-255 Introduction to Visual Journalism	3
MC 20-303 Introduction to Web Publishing	3
MC 20-343 Advanced Media Design	3

Minor in Interactive Digital Media, 24 hours

This is an interdisciplinary minor in conjunction with the Art, Computer Science/Information Systems and Mass Communication departments.

This minor requires CSIS 44-130 Computers and Information Technology as a prerequisite course as required by course descriptions.

Required Courses**Semester Hours**

Art 13-191 Introduction to Design	3
Art 13-292 Introduction to Creative Electronic Imaging	3
MC 20-243 Media Design	3
MC 20-303 Introduction to Web Publishing	3
CSIS 44-143 Script Programming I	3
CSIS 44-333 Multimedia and Web Development	3

Electives (Select any six hours from the following):

6

- Art 13-120 Drawing (3)
- Art 13-207 Digital Photography (3)
- MC 20-301 Multimedia Audio/Video Production (3)
- MC 20-334 Multimedia Production (3)
- CSIS 44-141 Computer Programming I (3)
- CSIS 44-335 Script Programming II (3)

Course Descriptions

Mass Communication/20

111 Introduction to Broadcast Operations (3 hours)

An introduction to the operation of radio and television equipment for professional broadcast situations. Includes control room procedures as well as a study of FCC rules and regulations. (F, S)

120 Introduction to Mass Media (3 hours)

Overview of the history of the media, social responsibilities of the journalist and issues facing the media today. (F, S)

130 Professional Media Writing (3 hours)

The course will prepare students for media writing, with special emphasis on AP style, news judgment and a thorough review of grammar. (F, S)

150 Journalism Practicum (Yearbook) (1 hour)

Laboratory practice working on the *Tower* student yearbook. (F, S)

151 Journalism Practicum (Newspaper) (1 hour)

Laboratory practice working on the *Northwest Missourian* student newspaper. (F, S)

215 Practicum in Radio (1 hour)

Practical experience on the staff of campus station KZLX-LP/KDLX. Additionally, there are six areas of work: underwriting, production, promotions, sports, news and music. Prerequisites: MC 20-111. (F, S)

216 Practicum in Television (1 hour)

Practical experience on the staff of campus station KNWT-TV. The areas of work include the use of television equipment and preparation of programs. Prerequisite: MC 20-111. (F, S)

221 Ethnographic Film Study (3 hours)

A study of international cinema from a multicultural standpoint. The course will focus on some predominant themes common to many world cultures, themes such as war, liberation, immigration and racism. (F, S)

224 Radio Production (3 hours)

A study of the basic theoretical and practical elements in radio production. Performance, equipment, program productions and editing are covered. Lecture and laboratory. Prerequisite: MC 20-111. (F, S)

225 Television Production (3 hours)

Basic theory and practice in television production. Lighting, video cameras, picture aesthetics, television audio and post-production, including non-linear editing, are covered. Prerequisite: MC 20-111. (F, S)

227 Reporting (3 hours)

Comprehensive preparation in identifying, gathering, structuring and styling news. Prerequisite: MC 20-130. (F, S)

230 Introduction to Media Advertising (3 hours)

This introductory course will examine the foundations, concepts, strategies and operations of the advertising industry. This course will examine the real world of advertising and present the breadth as well as depth of the field. (F)

243 Media Design (3 hours)

Study of newspapers, magazines and corporate publications with a concentration on production and design using computers. (F, S)

255 Introduction to Visual Journalism (3 hours)

An introduction to visual journalism primarily through the use of still and video camera tech-

niques and its application to various media formats. Includes sections on basic photojournalism techniques, caption writing, news judgment, ethics and basic design techniques. (F)

300 Special Offerings (1-4 hours)

Courses which are offered on only one occasion or variable issue-oriented courses which have the content described in the title. Credit and prerequisites as announced.

301 Multimedia Audio/Visual Production (3 hours)

Audio and video production techniques specifically aimed at multimedia distribution. Video cameras, video photography, videography, non-linear editing and editing aesthetics, multi-track audio and audio aesthetics, streaming signals, file types and interactivity between applications and hardware are covered. (F)

303 Introduction to Web Publishing (3 hours)

An introduction to the concepts and strategies of using the Internet to communicate to an audience. Students will analyze different types of web sites and why they are built, and examine common site features and good site design and content practices. (S)

313 Principles of Broadcast Advertising (3 hours)

A study of the techniques of selling, developing and maintaining sales accounts for broadcast stations. Also covers the psychology, ethics and criticism of broadcast advertising as well as practice in writing and research for commercial production. (F, S)

314 Communication Law (3 hours)

A study of the legal aspects of the mass media, particularly libel and slander, obscenity, pornography, prior restraint, licensing, invasion of privacy, copyright, FCC regulations and First Amendment problems. Prerequisite: Advanced standing. (F, S)

315 Broadcast Journalism (3 hours)

A study of journalism in the electronic media and the writing style for broadcast news. The use of audio and video in reporting the news is also studied. Prerequisite: MC 20-120, 130, and 227. (F)

317 Media Criticism and Responsibility (3 hours)

An examination of media ethics and responsibility. Topics for study include news coverage, politics and

the media, the role of business, and media performance. Prerequisite: Advanced standing. (S)

320 Theories of Mass Communication (3 hours)

Comprehensive examination of historical and contemporary theories of mass communication and the development of mass communication research. Prerequisite: Advanced standing. (F, S)

322 Advanced Practicum in Radio (2 hours)

Advanced experience including leadership positions on the staff of campus station KZLX-LP/KDLX. Prerequisites: Advanced standing and MC 20-215.

326 Advanced Practicum in Television (2 hours)

Advanced experience on the staff of campus station KNWT-TV. The work includes advanced production, directing and/or management. Prerequisites: Advanced standing and MC 20-216, 225. (F, S)

327 Advanced Reporting (3 hours)

Theory and practice of reporting for a variety of media. Students will develop important skills in interviewing, computer-assisted reporting and in covering special beats. Students will continue to develop their ability to correctly use Associated Press broadcast and print style. Students will produce content for newspaper, television and online coverage. Prerequisites: MC 20-227 and 315. (S)

329 Advanced Audio Production (3 hours)

A study of the advanced theoretical and practical elements in audio production. Mixing, processing, recording music and audio for video are covered. Prerequisite: MC 20-111. (S, alt. years)

330 Advanced Television Production (3 hours)

Advanced study and development of television production skills. Specific areas of study include electronic field production, post production, lighting and set design. Prerequisites: Advanced standing and MC 20-225. (F, alt. years)

334 Multimedia Production (3 hours)

This course will examine the types, processes and applications of multimedia content. Emphasis will be on the production of interactive presentations. Prerequisites: MC 20-243 and 303. (F, S)

343 Advanced Media Design (3 hours)

Study of advanced design techniques and principles used for print and multimedia design. Various software packages, design trends and readability issues will be examined. Prerequisite: MC 20-243. (S)

350 Advanced Journalism Practicum (Yearbook) (2 hours)

Advanced laboratory practice working on the Tower student yearbook. Prerequisites: Advanced standing and MC 20-150. (F, S)

351 Advanced Journalism Practicum (Newspaper) (2 hours)

Advanced laboratory practice working on the Northwest Missourian student newspaper. Prerequisites: Advanced standing and MC 20-151. (F, S)

352 Editing (3 hours)

Theory and practice of news processing, i.e. copy editing, coaching, grammar and news structure. Prerequisite: MC 20-227. (F)

353 Principles of Print Advertising (3 hours)

Emphasis on writing, designing and producing advertisements for newspapers and magazines, including study and application of current advertising techniques. Prerequisites: Advanced standing and MC 20-243. (S)

354 Online Magazine Practicum (1 hour)

This practicum offers students an opportunity to work in the areas of feature writing, magazine design, feature/documentary photography, circulation, advertising, sales and marketing. Prerequisite: Advanced standing. (F, S)

355 Photojournalism (3 hours)

This course will provide the photographer the knowledge necessary to work as a news photographer. Darkroom work will give students the opportunity to improve and expand technical skills. Prerequisites: Advanced standing and MC 20-255. Art 13-201 is recommended. (S)

358 Feature Writing (3 hours)

Writing and revising articles for magazines, writing queries, personality sketches and educational features. Prerequisite: Advanced standing. (F)

400 Special Offerings (1-3 hours)

Courses which are offered on only one occasion or variable issue-oriented courses which have the

content described in the title. Credit and prerequisites as announced.

401 Editorial Writing (3 hours)

Editorial writing emphasizes writing and critical thinking in the development of institutional and personal editorials for newspapers and other print media. The mission, obligation and history of editorials and the editorial page will be covered, along with correct and effective use of the English language to produce persuasive, argumentative, explanatory and informational editorials. Current issues will serve as springboards for comment. Prerequisite: MC 20-227.

403 Advanced Web Publishing (3 hours)

Applying web publishing principles of content coordination, navigation and marketability to advanced web publishing projects. Prerequisites: MC 20-243 and 303. (S, alt. years)

409 Media Leadership (3 hours)

An examination of the organization, operation and policies of media organizations; news evaluation; planning and budgeting; federal legislation; and legal, ethical and censorship concerns from the perspective of the media manager. Prerequisite: Advanced standing. (F, S)

412 Comparative Mass Media Systems (3 hours)

A study of foreign and international mass media systems in terms of structure, financing and content. Topics include the impact of political and cultural institutions on shaping media systems, international telecommunications organizations and mass media and developing nations. Prerequisite: Advanced standing. (F, alt. years)

415 Interactive Digital Media Seminar (1 hour)

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. Prerequisite: Junior or senior standing by advisement. (F)

416 Senior Seminar (1 hour)

Designed to be the capstone experience for broadcasting and journalism majors, this course examines media trends and practices and further prepares students for advanced study in the media field. Emphasis will be placed on portfolio/tape development and research, writing and presenta-

tion skills. Prerequisites: Advanced standing and senior status. (F, S)

417 Television Directing (3 hours)

Practice in the planning, casting, rehearsing and production of a television program from the perspective of a television director. Attention will be given to advanced production techniques as well as to the aesthetic and persuasive capabilities of the medium. Prerequisites: Advanced standing and MC 20-330. (S, alt. years)

429 Advanced Problems in Broadcasting—Independent Study (1-3 hours)

Research in an area of broadcasting which is of particular interest to the advanced student capable of individual, directed study. Independent studies must be approved by a faculty supervisory committee. Prerequisites: Advanced standing and consent of instructor.

430 Advanced Advertising Strategies (3 hours)

A capstone course which will apply advertising principles to an actual advertising campaign. Students will form an advertising agency to create a complete advertising campaign, including situational analysis, segment identification, campaign

objectives and strategies, budgeting, and creative strategies. Campaign collateral, including print, broadcast and Internet advertisements will be developed by the students and presented to the client. Prerequisites: MC 20-230, 243, 313; Mkt 55-330 and 333. (S, alt. years)

452 Internship (1-3 hours)

Individual mass communication interests of the student are addressed through practical application through a media outlet appropriate for the student's area of concentration. Advisement required. Prerequisite: Advanced standing. (F, S, SS)

459 Independent Study in Journalism (1-3 hours)

Research in the area of journalism which is of particular interest to the advanced student capable of individual, directed study. Independent studies must be approved by a faculty supervisory committee; forms are available in the secretary's office. Prerequisites: Advanced standing and consent of instructor.

500 Special Offerings (1-4 hours)

Courses which are offered on only one occasion or variable issue-oriented courses which have the content described in the title. Credit and prerequisites as announced.