BUSINESS AND MANAGEMENT SYSTEMS

Business and management systems is an undergraduate degree based on broad, foundational core courses. Professionals in this field analyze organizational needs to provide technology-enabled management and operations.

Today's business environments have a critical need for professionals who have an understanding of information technologies; are capable of operating in an electronic environment; and are able to synthesize, analyze, and learn from vast amounts of information. These individuals are needed to realize technology’s great potential to support business processes, decision making, and communication.

As a business and management systems major, you will take courses that are rigorous and oriented toward building the foundation necessary for lifetime learning. Studying at Missouri S&T, you will benefit from the world-class computer environment and your association with excellent students from around the country and the world. Students in the program are strongly encouraged to participate in summer internships or co-ops with companies before they graduate. There are many opportunities and students benefit greatly in terms of their education and the edge they have seeking full-time employment once they graduate.

Bachelor of Science Business and Management Systems

In business and management systems, the bachelor of science degree consists of 120 credit hours. First, all undergraduate students in business and management systems are required to complete a prescribed general education requirements core that corresponds to the recommendations of the Missouri State Coordinating Board for Higher Education and consists of 54 credit hours in the areas of natural systems, human institutions, quantitative skills, and communication skills. In addition, all undergraduate students are required to complete a 27 credit hour core consisting of courses in information technology, management, and entrepreneurship. A minimum grade of “C” is required for courses in these areas. Finally, the degree includes 12 credit hours of free electives.

The remaining 27 credit hours of the required 120 credit hours for the business and management systems degree are divided into a prescribed 18 credit hour degree core and 9 credit hours of degree specific electives. A minimum grade of “C” is required in these courses. The electives for this degree are then chosen from business-related upper-level courses.

Areas of Concentration

All students are required to complete twelve credit hours chosen from 2000, 3000, 4000, or 5000-level courses in business, economics, finance, enterprise resource planning, information science & technology, or marketing. A “C” or better grade is required in all twelve credit hours.

If the student chooses to designate an area of concentration for these courses, focusing at least 3 courses (9 credits) in one area, he or she may do so. Students are not required to choose a concentration area. Areas of concentration are:

E-Commerce

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>IS&amp;T 5652</td>
<td>Advanced Web Development</td>
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<td>IS&amp;T 4641</td>
<td>Electronic and Mobile Commerce</td>
<td>3</td>
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<tr>
<td>IS&amp;T 4642</td>
<td>E-Commerce Architecture</td>
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<tr>
<td>IS&amp;T 4257</td>
<td>Network Economy</td>
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<tr>
<td>IS&amp;T 5168</td>
<td>Law and Ethics in E-Commerce</td>
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Enterprise Resource Planning
Any 9 hours of ERP-designated courses at the 4000-level or above.

Finance
FINANCE 5160 Corporate Finance II 3
FINANCE 5260 Investments I 3
ECON 4720 International Finance 3
Any other finance course at the 3000-level or above.
ECON 4410, and ECON 5337 cannot be used toward this concentration.

Human-Computer Interaction
IS&T 5652 Advanced Web Development 3
IS&T 5885 Human-Computer Interaction 3
IS&T 5886 Prototyping Human-Computer Interactions 3
IS&T 5887 Human-Computer Interaction Evaluation 3

Management
BUS 3115 Introduction to Teambuilding and Leadership 3
BUS 5470 Human Resource Management 3
BUS 4111 Business Negotiations 3
IS&T 5251 Technological Innovation Management and Leadership 3

Marketing
MKT 3210 Consumer Behavior 3
MKT 5310 Digital Marketing and Promotions 3
MKT 4150 Customer Focus and Satisfaction 3
MKT 4580 Marketing Strategy 3
ERP 4610 Customer Relationship Management in ERP Environment 3

You must see the department advisor and complete a minor application before beginning your minor. Requirements change over time. You will be held to the requirements in force at the time you apply for the minor. Postponing your application for the minor may result in you having to take additional courses to complete the minor. At least six (6) hours of the minor course work must be taken in residence at Missouri S&T.

Minor in Business
The minor in business and management systems requires the following 15 hours of coursework:
FINANCE 2150 Corporate Finance I 3
or ECON 1200 Principles Of Macroeconomics 3
ECON 1100 Principles Of Microeconomics 3
BUS 1110 Introduction to Management and Entrepreneurship 3
BUS 1210 Financial Accounting 3
MKT 3110 Marketing 3

Minor in Enterprise Resource Planning (ERP)
The minor in ERP requires the following 15 hours of coursework:
BUS 1210 Financial Accounting 3
ERP 2110 Introduction to Enterprise Resource Planning 3
ERP 5110 Enterprise Resource Planning Systems Design and Implementation 3
Six credit hours of electives from any other ERP-designated courses at the 4000-level or above 6
Total Credits 15

Minor in Entrepreneurship
The minor in entrepreneurship requires the following 15 hours of coursework:
BUS 1110 Introduction to Management and Entrepreneurship 3
BUS 5980 Business Models for Entrepreneurship and Innovation 3
MKT 5310 Digital Marketing and Promotions 3
Two courses from the following list: 6
BUS 4150 Customer Focus and Satisfaction
BUS 5580 Strategic Management

Minor in Digital Supply Chain Management
The minor in digital supply chain management requires the following 15 hours of coursework:
BUS 5360 Business Operations 3
or MECH ENG 3653 Manufacturing
ERP 5310 Supply Chain Management Systems in an ERP Environment 3
ERP 4610 Customer Relationship Management in ERP Environment 3
or MECH ENG 5760 Probabilistic Engineering Design
AERO ENG 5760
Two courses from the following list: 6
ERP 5410 Use of Business Intelligence
ERP 5110 Enterprise Resource Planning Systems Design and Implementation
MECH ENG 5708 Rapid Product Design And Optimization
MECH ENG 5650 Design For Manufacture
MECH ENG 5750 Integrated Product And Process Design
ENG MGT 5515
MECH ENG 5760 Principles And Practice Of Computer Aided Design
* Non business and information technology students must select ERP 5110 as one of the two electives.

Minor in Electronic and Social Commerce
The minor in electronic and social commerce requires the following 15 hours of coursework:
IS&T 4641 Electronic and Mobile Commerce 3
Four courses from the following list: 12
IS&T 4335 Fundamentals of Mobile Technology for Business
IS&T 5251 Technological Innovation Management and Leadership
IS&T 5652 Advanced Web Development
IS&T 5168 Law and Ethics in E-Commerce
IS&T 5885 Human-Computer Interaction
IS&T 5886 Prototyping Human-Computer Interactions
MKT 5310 Digital Marketing and Promotions
MKT 4580 Marketing Strategy

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Minor in Finance
The minor in finance requires the following 15 hours of coursework:

- ECON 1100: Principles Of Microeconomics 3
- or ECON 1200: Principles Of Macroeconomics 3
- FINANCE 2150: Corporate Finance I 3
- Three additional FINANCE electives at the 3000 level or above (Undergraduate Research is acceptable) 9

Total Credits 15

Minor in Information Science and Technology
The minor in information science and technology requires the following 15 hours of coursework:

- IS&T 1750: Introduction to Management Information Systems 3
- IS&T 1551: Implementing Information Systems: User Perspective 3
- IS&T 1552: Implementing Information Systems: Data Perspective 3
- ERP 2110: Introduction to Enterprise Resource Planning 3
- One other IS&T or ERP course at the 2000-level or above. 3

Total Credits 15

Minor in Management
The minor in management requires the following 15 hours of coursework:

- BUS 1110: Introduction to Management and Entrepreneurship 3
- One course from the following list: 3
  - BUS 2910: Business Law
  - BUS 3115: Introduction to Teambuilding and Leadership
  - BUS 5360: Business Operations
  - BUS 5580: Strategic Management
  - IS&T 4261: Information Systems Project Management
- Three courses from the following list: 9
  - BUS 4111: Business Negotiations
  - BUS 4150: Customer Focus and Satisfaction
  - BUS 5470: Human Resource Management
  - ENG MGT 3320: Introduction to Project Management

Minor in Marketing
The minor in marketing requires the following 15 hours of coursework:

- ECON 1100: Principles Of Microeconomics 3
- or ECON 1200: Principles Of Macroeconomics 3
- MKT 3110: Marketing 3
- Three courses from the following list: 9
  - ECON 1100: Principles Of Microeconomics
  - ECON 1200: Principles Of Macroeconomics
  - MKT 3110: Marketing
  - MKT 3210: Consumer Behavior
  - MKT 5310: Digital Marketing and Promotions
  - MKT 4150: Customer Focus and Satisfaction
  - MKT 4580: Marketing Strategy
  - ERP 4610: Customer Relationship Management in ERP Environment
  - Other marketing electives approved by the department (MKT 3000 and above)

Minor in Mobile Business and Technology
The minor in mobile business and technology requires the following 15 hours of coursework:

- IS&T 4641: Electronic and Mobile Commerce 3
- IS&T 4335: Fundamentals of Mobile Technology for Business 3
- ERP 5240: Enterprise Portal and Mobile Application Development 3
- Two courses from the following list: 6
  - IS&T 3333: Data Networks and Information Security
  - IS&T 5652: Advanced Web Development
  - IS&T 5886: Prototyping Human-Computer Interactions
  - ERP 4610: Customer Relationship Management in ERP Environment
  - ERP 5310: Supply Chain Management Systems in an ERP Environment
  - ERP 5210: Performance Dashboard, Scorecard and Data Visualization

Pre MBA Minor
The minor in pre MBA will prepare students to enter an accredited MBA program at Missouri S&T or elsewhere. This minor requires the following 39 hours of coursework:

- PSYCH 1101: General Psychology 3
- MATH 1208: Calculus With Analytic Geometry I 5
- or MATH 1212: Business Calculus
- or MATH 1214: Calculus For Engineers I
- ECON 1300/STAT 1111: Business And Economic Statistics I 3
- or STAT 1115: Statistics For The Social Sciences I
- or STAT 3111: Statistical Tools For Decision Making
- or STAT 3113: Applied Engineering Statistics
- or STAT 3115: Engineering Statistics
- or STAT 3117: Introduction To Probability And Statistics
- ECON 1100: Principles Of Microeconomics 3
- ECON 1200: Principles Of Macroeconomics 3
- BUS 1110: Introduction to Management and Entrepreneurship 3
- BUS 1210: Financial Accounting 3
- BUS 3220: Managerial Accounting 3
- BUS 2910: Business Law 3
- BUS 3115: Customer Focus and Satisfaction 3
- BUS 5360: Business Operations 3
- MKT 3110: Marketing 3
- MKT 3210: Consumer Behavior
- MKT 5310: Digital Marketing and Promotions
- MKT 4150: Customer Focus and Satisfaction
- MKT 4580: Marketing Strategy
- ERP 4610: Customer Relationship Management in ERP Environment
- Other marketing electives approved by the department (MKT 3000 and above)

Eric Anderson, Adjunct Instructor
BUS 1000 Special Problems (IND 0.0-6.0)
Problems or readings on specific subjects or projects in the department. Consent of instructor required.

BUS 1001 Special Topics (IND 0.0-6.0)
This is designed to give the department an opportunity to test a new course. Variable title.

BUS 1110 Introduction to Management and Entrepreneurship (LEC 3.0)
The course provides an introduction to the basic concepts of management and entrepreneurship to provide an awareness of what functions and challenges are faced by managers and entrepreneurs in today's global environment. Applications of the concepts to the organization, operations, and resources are discussed. Appropriate for all majors.

BUS 1210 Financial Accounting (LEC 3.0)
This course is an introduction to financial accounting and its significant role in making sound business decisions. Emphasis is on what accounting information is, why it is important, and how it is used to make strategic economic decisions.

BUS 1810 Introduction to College Success (LEC 1.0)
This course teaches essential skills for success in Business and Information Technology and a student's future career. The course creates a sense of community in the department and prepares the student for the business world.

BUS 1811 Introduction to College Success II (LAB 0.50)
A continuation of BUS 10. Students learn essential skills for success in Business and Information Technology. The course creates a sense of community in the department and prepares the students for the business world.

BUS 2000 Special Problems (IND 0.0-6.0)
Problems or readings on specific subjects or projects in the department. Consent of instructor required.

BUS 2001 Special Topics (LEC 0.0-6.0)
This is designed to give the department an opportunity to test a new course. Variable title.

BUS 2002 Cooperative Training in Business (IND 0.0-6.0)
On-the-job experience gained through cooperative education with industry with credit arranged through departmental co-op advisor. Grade received depends on quality of reports submitted and work supervisors's evaluation. Prerequisite: Completed 30 hours toward degree.

BUS 2910 Business Law (LEC 3.0)
This course is an introduction to the nature and meaning of law and the legal environment of business. Topics include the legal process, sources of law, and institutions. Prerequisites: Bus 1110 and Econ 1100.

BUS 3105 Management and Business Law Essentials (LEC 1.5)
This course is an introduction to the essentials of management and business law for running a business. It is designed for students planning to enter the MBA program who need this area and for non-business students who want some business background. Credit in this course cannot be applied to any major or minor in Business, IS&T, or Economics. Prerequisite: Senior or Junior Standing; 3.0 GPA required.
**BUS 3115 Introduction to Teambuilding and Leadership** (LEC 3.0)
This course covers an introduction to leadership styles, principles, models, issues, and applications through analytical and intellectual examination. Key components of teams are introduced, with opportunities to practice and develop both leadership and teambuilding skills.

**BUS 3205 Accounting Essentials** (LEC 1.5)
This course is an introduction to the essentials of financial and managerial accounting for running a business. It is designed for students planning to enter the MBA program who need this area and for non-business students who want some business background. Credit in this course cannot be applied to any major or minor in Business, IS&T, or Economics. Prerequisite: Senior or Junior standing; 3.0 GPA required.

**BUS 3220 Managerial Accounting** (LEC 3.0)
Emphasizes internal use of accounting information in establishing plans and objectives, controlling operations, and making decisions involved with management of an enterprise (the determination of costs relevant to a specific purpose such as inventory valuation, control of current operation, or special decisions). Prerequisite: Bus 1210 or Eng Mgt 2211.

**BUS 3305 Operations Management Essentials** (LEC 1.5)
This course is an introduction to the essentials of operations management for running a business. It is designed for students planning to enter the MBA program who need this area and for non-business students who want some business background. Credit in this course cannot be applied to any major or minor in Business, IS&T, or Economics. Prerequisite: Senior or Junior Standing; 3.0 GPA required.

**BUS 3705 Management Information Systems Essentials** (LEC 1.5)
This course is an introduction to the essentials of management information systems for running a business. It is designed for students planning to enter the MBA program who need this area and for non-business students who want some business background. Credit in this course cannot be applied to any major or minor in Business, IS&T, or Economics. Prerequisite: Senior or Junior Standing; 3.0 GPA required.

**BUS 3805 Mathematics and Statistics Essentials** (LEC 1.5)
This course is an introduction to the essentials of mathematics and statistics for running a business. It is designed for students planning to enter the MBA program who need this area and for non-business students who want some business background. Credit in this course cannot be applied to any major or minor in Business, IS&T, or Economics. Prerequisite: Senior or Junior Standing; 3.0 GPA required.

**BUS 4000 Special Problems** (IND 0.0-6.0)
Problems or readings on specific subjects or projects in the department. Consent of instructor required.

**BUS 4001 Special Topics** (LEC 0.0-6.0)
This is designed to give the department an opportunity to test a new course. Variable title.

**BUS 4099 Undergraduate Research** (IND 0.0-6.0)
Designed for the undergraduate student who wishes to engage in research. Not for graduate credit. Not more than six credit hours allowed for graduation credit. Subject and credit to be arranged with the instructor.

**BUS 4111 Business Negotiations** (LEC 3.0)
The purpose of this course is to understand the practices and processes of negotiation for negotiating successfully in a variety of settings. The course is designed to be relevant to the broad spectrum of negotiation problems faced by managers, consultants, etc. Because almost everyone negotiates all the time, this course is relevant to almost any student. Prerequisites: At least Junior status.

**BUS 4150 Customer Focus and Satisfaction** (LEC 3.0)
Major emphasis is given to the concept of customer focus, with coverage of techniques for obtaining customer needs, measuring customer satisfaction, developing products and services to satisfy customers, and maximizing the benefits of customer feedback. A semester long HoQ project will be done. Prerequisites: MKT 3110 or MKT 3105 or ENG MGT 3510. (Co-listed MKT 4150).

**BUS 4675 International Business** (LEC 3.0)
This survey course will deal with business concepts, analytical processes and philosophical bases for international business operations. Emphasis is on environmental dynamics, multinational business organizations, cultural and economic constraints, unique international business practices and international operations, strategy and policy.

**BUS 4970 Senior Business Design I** (LEC 1.5)
In this course, students will become familiar with the principles of entrepreneurship; learn about the basic purpose, content and structure of business plans; and develop business presentation skills through practice. At the end of the semester, student teams will give presentations to a bank in an attempt to secure a loan to run the business the following semester. Prerequisite: Senior Standing.

**BUS 4980 Senior Business Design II** (LEC 2.0)
In this course, students will be expected to carry out the business plans created in Bus 4970. Progress reports are submitted roughly every 3 weeks during the semester. At the end of the semester, students terminate the business organization and profits are donated to a nonprofit organization in the team’s name. Prerequisite: Bus 4970.

**BUS 5000 Special Problems** (IND 0.0-6.0)
Problems or readings on specific subjects or projects in the department. Prerequisite: Admission to the MBA program.

**BUS 5001 Special Topics** (LEC 0.0-6.0)
This is designed to give the department an opportunity to test a new course. Variable title.

**BUS 5040 Oral Examination** (IND 0.0)
After completion of all other requirements, oral examinations for on-campus M.B.A./Ph.D. students may be processed during intersession. Off-campus M.B.A. students must be enrolled in oral examination and must have paid an oral examination fee at the time defense/oral examination (oral/written). All other students must enroll for credit commensurate with uses made of facilities and/or faculties. In no case shall this be for less than three (3) semester hours for resident students.

**BUS 5080 Practicum** (IND 0.0-6.0)
This course is similar to the Bus 5085 Internship course. The difference is that this course is intended for students who are already employed by an organization for whom they wish to continue working. Prerequisite: Bus Core.

**BUS 5085 Internship** (IND 0.0-6.0)
Students apply critical thinking skills and discipline specific knowledge in a work setting based on a project designed by the advisor and employer. Activities will vary depending on the student’s background and the setting. Requires major report and formal presentation to sponsoring organization. Prerequisite: Graduate standing.
BUS 5099 Research (IND 0.0-9.0)
Research investigation of an advanced nature leading to a major report suitable for publication in a journal or in a conference proceedings. Prerequisite: Permission of the instructor.

BUS 5105 Graduate Management and Business Law Essentials (LEC 1.5)
This course is an introduction to the essentials of management and business law for running a business. It's designed for students planning to enter the MBA program who need this area and for non-business students who want some business background. Credit cannot be applied to any major or minor in Business, IS&T, or Economics. Additional case study or report required. Prerequisite: Bachelor Degree.

BUS 5115 Teambuilding and Leadership in Business Settings (LEC 3.0)
This course covers leadership styles, principles, models, issues, and applications through analytical and intellectual examination. Key components of teams are introduced, with opportunities to practice and develop both leadership and teambuilding skills. Case studies required.

BUS 5205 Graduate Accounting Essentials (LEC 1.5)
This course is an introduction to the essentials of financial and managerial accounting for running a business. It's designed for students planning to enter the MBA program who need this area and for non-business students who want some business background. Credit cannot be applied to any major or minor in Business, IS&T, or Economics. Additional case or report required. Prerequisite: Bachelor Degree.

BUS 5305 Graduate Operations Management Essentials (LEC 1.5)
This course is an introduction to the essentials of operations management for running a business. It is designed for students planning to enter the MBA program who need this area and for non-business students who want some business background. Credit cannot be applied to any major or minor in Business, IS&T, or Economics. Additional case study or report required. Prerequisite: Bachelor Degree.

BUS 5360 Business Operations (LEC 3.0)
This course examines the concepts, processes, and institutions that are fundamental to an understanding of business operations within organizations. Emphasis is on the management and organization of manufacturing and service operations and the application of quantitative methods to the solution of strategic, tactical and operational problems. Prerequisites: BUS 1210 or ENG MGT 2211; at least Junior standing; and one of the following: STAT 1111, STAT 1115, STAT 1116, STAT 3111, STAT 3113, STAT 3115, or STAT 3117.

BUS 5470 Human Resource Management (LEC 3.0)
The course examines employee selection, performance appraisal, training and development, compensation, legal issues, and labor relations. Prerequisite: Bus 1110.

BUS 5580 Strategic Management (LEC 3.0)
Study of the formulation and implementation of corporative, business and functional strategies designed to achieve organizational objectives. Case studies and research reports may be used extensively. Prerequisites: MKT 3110 or Eng Mgt 3510; Finance 2150 or Eng Mgt 3200; Senior standing.

BUS 5705 Graduate Management Information Systems Essentials (LEC 1.5)
This course is an introduction to the essentials of management information systems for running a business. It is designed for students planning to enter the MBA program. Credit in this course cannot be applied to any major or minor in Business, IS&T, or Economics. Additional case or report required. Prerequisite: Bachelor Degree.

BUS 5805 Graduate Mathematics and Statistics Essentials (LEC 1.5)
This course is an introduction to the essentials of mathematics and statistics for running a business. It is designed for students planning to enter the MBA program who need this area and for non-business students who want some business background. Credit cannot be applied to any major or minor in Business, IS&T, or Economics. Additional case study or report required. Prerequisite: Bachelor Degree.

BUS 5896 Project Research (IND 0.0-9.0)
The research project will involve students applying research techniques and discipline specific knowledge working on a project designed by the advisor, often working with a business organization. Requires major report and formal presentation to sponsoring organization. Prerequisite: Permission of the instructor.

BUS 5980 Business Models for Entrepreneurship and Innovation (LEC 3.0)
This course uses problem based learning to expand student insight into the nature, development, and application of business models. It increases the practical skills and knowledge required to generate original models of value creation for both entrepreneurial start-ups and corporate innovation. Prerequisite: Senior or graduate standing.