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. All undergraduate students in Business and Management Systems are required to complete a General Education Requirements Core, including courses in Humanities, Social Sciences, Mathematics, Science, and Communication Skills.

A common departmental core of courses in Management and Information Technology helps provide students with skills to succeed in a fast-changing and globalized environment. Business Core courses and Business Electives provide students with comprehensive knowledge in business disciplines.

A minimum grade of "C" is required in the Business Core, Business Electives, Management, and Information Technology courses. Students have 9 credit hours for free electives.

Freshman Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credits</th>
<th>Second Semester</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>PSYCH 1101</td>
<td>3</td>
<td>MATH 1140</td>
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</tr>
<tr>
<td>BUS 1110</td>
<td>1</td>
<td>IS&amp;T 1750</td>
<td>3</td>
</tr>
<tr>
<td>ENGLISH 1120</td>
<td>3</td>
<td>ECON 1200</td>
<td>3</td>
</tr>
<tr>
<td>Science Elective(^3)</td>
<td>3</td>
<td>Fine Art, Social Science, or Humanities Elective(^2)</td>
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<tr>
<td>Laboratory w/ Science Elective(^3)</td>
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Sophomore Year

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<tbody>
<tr>
<td>BUS 1210</td>
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<td>FINANCE 2150</td>
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<tr>
<td>MATH 1212</td>
<td>4</td>
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<tr>
<td>IS&amp;T 1551</td>
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<td>ERP 2110</td>
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<tr>
<td>ECON 1100</td>
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<td>POL SCI 1200</td>
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Junior Year

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<th>Second Semester</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MKT 3110</td>
<td>3</td>
<td>BUS 5880</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 4654</td>
<td>3</td>
<td>ENGLISH 2560 or TCH COM 2560</td>
<td>3</td>
</tr>
<tr>
<td>STAT 3111</td>
<td>3</td>
<td>BUS 3220</td>
<td>3</td>
</tr>
<tr>
<td>Business Elective</td>
<td>3</td>
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<tr>
<td>Free Elective</td>
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Senior Year

<table>
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<th>Credits</th>
<th>Second Semester</th>
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</thead>
<tbody>
<tr>
<td>BUS 2910</td>
<td>3</td>
<td>BUS 5980(^1)</td>
<td>3</td>
</tr>
<tr>
<td>BUS 5360</td>
<td>3</td>
<td>BUS 4675</td>
<td>3</td>
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<tr>
<td>MKT 5310</td>
<td>3</td>
<td>Business Elective</td>
<td>3</td>
</tr>
<tr>
<td>Business Elective</td>
<td>3</td>
<td>Fine Art, Social Science, or Humanities Elective(^2)</td>
<td>3</td>
</tr>
<tr>
<td>Free Elective</td>
<td>3</td>
<td>Free Elective</td>
<td>3</td>
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<tr>
<td><strong>Total</strong></td>
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<td><strong>Total</strong></td>
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</table>

Total Credits: 120

A grade of "C" or better is required in the following courses for graduation: IS&T 1551, IS&T 1552, IS&T 1750, IS&T 4654, ERP 2110, FIN 2150, MKT 3110, MKT 5310, ECON 1100, ECON 1200, BUS 1110, BUS 1210, BUS 2150, BUS 2910, BUS 3220, BUS 4675, BUS 5360, BUS 5580, BUS 5980, and all Business Electives.

\(^1\) Writing intensive course  
\(^2\) Any course in the following areas not used for other degree requirements: Art, economics, English, foreign language, history, literature, music, philosophy, political science, psychology, sociology, theater.  
\(^3\) Any course in the following areas: Biology, Chemistry, Geology, Geological Engineering, Physics.

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

- IS&T 5652 Advanced Web Development 3
- IS&T 4641 Digital Commerce and the Internet of Things 3
- IS&T 4642 E-Commerce Architecture 3
- IS&T 4257 Network Economy 3
- IS&T 5168 Law and Ethics in E-Commerce 3

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  Business-Computer Interaction  3
IS&T 5886  Prototyping Human-Computer Interactions  3
IS&T 5887  Human-Computer Interaction Evaluation  3

Management
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 4150  Customer Focus and Satisfaction  3
MKT 4580  Marketing Strategy  3
ERP 4610  Customer Relationship Management in ERP Environment  3
MKT 5320  Marketing for Non-Profits  3

Minors
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 Artificial Intelligence and Machine Learning in Business

The Minor requires 15 credit hours, as follows:

BUS 5730  Machine Learning and Artificial Intelligence for Business  3
IS&T 5535  Machine Learning Algorithms and Applications  3
IS&T 3420  Introduction to Data Science and Management  3

And two courses from the following list:

STAT 3111  Statistical Tools For Decision Making  3
IS&T 3333  Data Networks and Information Security  3
IS&T 3343  Systems Analysis  3
IS&T 4450  Introduction to Information Visualization  3
IS&T 5420  Business Analytics and Data Science  3
IS&T 5520  Data Science and Machine Learning with Python  3
ERP 5410  Use of Business Intelligence  3

Minor in Business
The minor in business and management systems requires the following 15 hours of coursework:

FINANCE 2150  Corporate Finance I  3
ECON 1100  Principles Of Microeconomics  3
or ECON 1200  Principles Of Macroeconomics  3
BUS 1110  Introduction to Management and Entrepreneurship  3
BUS 1210  Financial Accounting  3
MKT 3110  Marketing  3

Minor in Business Applications and Software Development

The Minor requires 15 credit hours, as follows:

Required Courses: 6
IS&T 3553  Modular Software Systems in Java  3
IS&T 5520  Data Science and Machine Learning with Python

And three courses from the following list: 9
IS&T 1552  Implementing Information Systems: Data Perspective  3
IS&T 3131  Computing Internals And Operating Systems  3
IS&T 3420  Introduction to Data Science and Management  3
IS&T 3423  Database Management  3
IS&T 3443  Database Applications in Business  3
ERP 5240  Enterprise Application Development and Software Security

Minor in Cybersecurity Management and Information Assurance

This minor requires the following 15 hours of coursework:

The following three courses are required:

BUS 5910  Privacy and Information Security Law  3
IS&T 4789  Human and Organizational Factors in Cybersecurity  3
IS&T 3333  Data Networks and Information Security  3

Two of the following three courses must also be taken:

ERP 5240  Enterprise Application Development and Software Security  3
IS&T 4335  Fundamentals of Mobile Technology for Business  3
IS&T 4641  Digital Commerce and the Internet of Things  3

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  3
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  3
AERO ENG 5760

Two courses from the following list:* 6
ERP 5410  Use of Business Intelligence  3
ERP 5110  Enterprise Resource Planning Systems Design and Implementation  3
MECH ENG 5708  Rapid Product Design And Optimization  3
MECH ENG 5656  Design For Manufacture  3
MECH ENG 5757/  Integrated Product And Process Design  3
ENG MGT 5516
MECH ENG 5763  Principles And Practice Of Computer Aided Design  3

* 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  Digital Commerce and the Internet of Things  3

Four courses from the following list: 12
IS&T 4335  Fundamentals of Mobile Technology for Business  3
IS&T 5251  Technological Innovation Management and Leadership  3
IS&T 5652  Advanced Web Development  3
The Minor requires 15 credit hours, as follows:

**Minor in Financial Technology**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FINANCE 2150</td>
<td>3</td>
</tr>
<tr>
<td>FINANCE 5310</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 3420</td>
<td>3</td>
</tr>
<tr>
<td>And one course from the following list:</td>
<td></td>
</tr>
<tr>
<td>FINANCE 5160</td>
<td>3</td>
</tr>
<tr>
<td>FINANCE 5260</td>
<td>3</td>
</tr>
<tr>
<td>BUS 5230</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 5520</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 4641</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 4780</td>
<td>3</td>
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</table>

Total Credits: 15

**Minor in Enterprise Resource Planning (ERP)**

The minor in ERP requires the following 15 hours of coursework:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 1210</td>
<td>3</td>
</tr>
<tr>
<td>ERP 2110</td>
<td>3</td>
</tr>
<tr>
<td>ERP 5110</td>
<td>3</td>
</tr>
<tr>
<td>Six credit hours of electives from any other ERP-designated courses at the 4000-level or above</td>
<td>6</td>
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<tr>
<td>Total Credits</td>
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</tbody>
</table>

**Minor in Entrepreneurship**

The minor in entrepreneurship requires the following 15 hours of coursework:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 1110</td>
<td>3</td>
</tr>
<tr>
<td>BUS 5980</td>
<td>3</td>
</tr>
<tr>
<td>MKT 5310</td>
<td>3</td>
</tr>
<tr>
<td>Two courses from the following list:</td>
<td></td>
</tr>
<tr>
<td>BUS 4150</td>
<td>3</td>
</tr>
<tr>
<td>BUS 5580</td>
<td>3</td>
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<tr>
<td>IS&amp;T 4641</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 4654</td>
<td>3</td>
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<tr>
<td>IS&amp;T 4335</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 5251</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 6564</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 5886</td>
<td>3</td>
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<tr>
<td>ENG MGT 5511</td>
<td>3</td>
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<tr>
<td>ENG MGT 5411</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
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</tbody>
</table>

**Minor in Finance**

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ECON 1100 or ECON 1200</td>
<td>3</td>
</tr>
<tr>
<td>FINANCE 2150</td>
<td>3</td>
</tr>
<tr>
<td>Three additional FINANCE electives at the 3000 level or above (Undergraduate Research is acceptable)</td>
<td>9</td>
</tr>
<tr>
<td>Total Credits</td>
<td>15</td>
</tr>
</tbody>
</table>

**Minor in Information Science and Technology**

The minor in information science and technology requires the following 15 hours of coursework:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>IS&amp;T 1750</td>
<td>3</td>
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<tr>
<td>IS&amp;T 1551</td>
<td>3</td>
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<tr>
<td>IS&amp;T 1552</td>
<td>3</td>
</tr>
<tr>
<td>ERP 2110</td>
<td>3</td>
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<tr>
<td>One other IS&amp;T or ERP course at the 2000-level or above</td>
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<tr>
<td>Total Credits</td>
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</table>

**Minor in Management**

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BUS 1110</td>
<td>3</td>
</tr>
<tr>
<td>Four courses from the following list:</td>
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<tr>
<td>BUS 2910</td>
<td>3</td>
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<tr>
<td>BUS 3115</td>
<td>3</td>
</tr>
<tr>
<td>BUS 4111</td>
<td>3</td>
</tr>
<tr>
<td>BUS 4150</td>
<td>3</td>
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<tr>
<td>BUS 5360</td>
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<tr>
<td>BUS 5470</td>
<td>3</td>
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<td>BUS 5580</td>
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<tr>
<td>IS&amp;T 4261</td>
<td>3</td>
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<td>ENG MGT 3320</td>
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<td>Total Credits</td>
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</table>

**Minor in Marketing**

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

<table>
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<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ECON 1100 or ECON 1200</td>
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<tr>
<td>MKT 3110</td>
<td>3</td>
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<tr>
<td>Three courses from the following list:</td>
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<tr>
<td>MKT 3210</td>
<td>3</td>
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<tr>
<td>MKT 5310</td>
<td>3</td>
</tr>
<tr>
<td>MKT 4150</td>
<td>3</td>
</tr>
<tr>
<td>MKT 4580</td>
<td>3</td>
</tr>
<tr>
<td>ERP 4610</td>
<td>3</td>
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<tr>
<td>Other marketing electives approved by the department (MKT 3000 and above)</td>
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<tr>
<td>Total Credits</td>
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</table>

**Minor in Mobile Business and Technology**

The minor in mobile business and technology requires the following 15 hours of coursework:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>IS&amp;T 4641</td>
<td>3</td>
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<tr>
<td>IS&amp;T 4335</td>
<td>3</td>
</tr>
<tr>
<td>ERP 5240</td>
<td>3</td>
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<tr>
<td>Two courses from the following list:</td>
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<tr>
<td>IS&amp;T 3333</td>
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<tr>
<td>IS&amp;T 5652</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 5886</td>
<td>3</td>
</tr>
<tr>
<td>ERP 4610</td>
<td>3</td>
</tr>
<tr>
<td>ERP 5310</td>
<td>3</td>
</tr>
<tr>
<td>ERP 5210</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
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</tbody>
</table>
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 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 2220** Managerial Accounting 3
- **BUS 2910** Business Law 3
- **BUS 5360** Business Operations 3
- **MKT 3110** Marketing 3
- **FINANCE 2150** Corporate Finance I 3
- **IS&T 1750** Introduction to Management Information Systems 3

**Eric Anderson**, Adjunct Instructor
JD University of Missouri-Columbia

**Carla Pauline Bates**, Assistant Teaching Professor
PHD University of Missouri-Columbia

**Robert T Berry**, Adjunct Professor
PHD University of Kansas

**Darryl Lee Brinkmann**, Adjunct Instructor
MASTER Sangamon State University

**Langtao Chen**, Assistant Professor
PHD Georgia State University

**Yu Hsien Chiu**, Associate Teaching Professor
MASTER University of Wisconsin-Milwaukee

**Craig C Claybaugh**, Associate Professor
PHD University of Wisconsin-Milwaukee

**Cassandra Carlene Elrod**, Associate Professor
PHD University of Missouri-Rolla

**Li-Li Eng**, Associate Professor
PHD University of Michigan Ann Arbor

**Hanqing Fang**, Assistant Professor
PHD Mississippi State University

**Caroline Fisher**, Professor Emeritus
PHD Bowling Green State University

**Barry B Flachsbart**, Professor
PHD Stanford University

**Nobuyuki Fukawa**, Associate Professor
PHD Louisiana State University

**Richard H Hall**, Professor
PHD Texas Christian University

**Edward J Harvey**, Lecturer
MBA University of Missouri-Columbia

**Michael Gene Hilgers**, Professor
PHD Brown University

**Ray Kluczny**, Associate Professor Emeritus
PHD Arizona State University

**Kellie Kowalski**, Adjunct Instructor
MASTER Northern Arizona University

**Bih-Ru Lea**, Associate Professor
PHD Clemson University

**Yu Liu**, Assistant Professor
PHD University of Oregon

**Gina Mowery**, Adjunct Instructor
MASTER University of Phoenix

**Fiona Fui-Hoon Nah**, Professor
PHD University of British Columbia

**Keng Leng Siau**, Professor
PHD University of British Columbia

**Sarah Margaret Stanley**, Assistant Professor
PHD Saint Louis University

**Nathan W Twyman**, Assistant Professor
PHD University of Arizona

**Wen-Bin Yu**, Associate Professor
PHD University of Texas at San Antonio

**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 supervisor’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.

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. Consent of instructor 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. Consent of instructor 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). Prerequisites: 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. Consent of instructor 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. Consent of instructor 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. Consent of instructor 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 1.0)
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 non-profit 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 Introduction to Individual and Group Dynamics in Business** (LEC 3.0)
This course will cover contemporary theories of business leadership styles and group dynamics. Leadership theories, group dysfunction/function, positive group interactions, change impacts, the importance of business ethics as well as the role of gender and culture on the group will be examined.

**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 study or report required. Prerequisite: Bachelor Degree.

**BUS 5230 Financial Statement Analysis** (LEC 3.0)
Analysis and interpretation of financial statements for profitability analysis, credit analysis, and other business analyses that rely on financial data. Introduces emerging roles of accounting analytics. Illustrates data analytics concepts and techniques to detect earning management, predict fraud, and to provide insights into other business strategies. Prerequisite: FINANCE 2150 or Graduate Standing.

**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 5730 Machine Learning and Artificial Intelligence for Business** (LEC 3.0)
Explores various approaches to machine learning and artificial intelligence, along with their numerous applications in business. Describes some of the many technological approaches to business problems that are considered part of machine learning and artificial intelligence, such as neural networks and deep learning. Prerequisites: IS&T 1750; or Graduate Standing, understanding of management information systems.

**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 5910 Privacy and Information Security Law** (LEC 3.0)
Explores issues concerning the use, disclosure, and protection of information (personal, organizational, health, and financial) from a legal perspective. A focus on understanding, planning, protecting, and responding to data breaches and other information risk and threats. Case studies based on litigation are reviewed and analyzed. Assumes MIS familiarity.

**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.