Curriculum in Business

The Ivy College of Business strives to provide a high quality professional education in business. Such an education should provide the student with: (1) an appreciation of the evolution of the profession and an awareness of the ethical, global, technological, economic, political and social forces shaping its future; (2) an understanding of the major functional areas of business with the opportunity for specialization for a career in business; (3) an ability to recognize and appreciate the effect of diversity in the work place; (4) an opportunity for advanced study.

A comprehensive education in business includes a broad foundation in the liberal arts, courses in the major functional areas of business activity, proficiency in analytical methods, and the ability to identify problems and arrive at logical solutions. In addition, a professional education is designed to inspire students to assume business and community leadership.

The curriculum in business is accredited by AACSB International, the Association to Advance Collegiate Schools of Business.

Organization of Curriculum

The undergraduate curriculum in business is divided into three areas: a general education program, a pre-professional business program, and a professional business program. The general education program provides a broad spectrum of liberal arts coursework. The pre-professional business requirements provide a foundation in pre-business coursework. The professional program includes two parts: (1) the business core which provides a common body of knowledge in all the functional areas in business, and (2) a major area of study. The eleven majors offered for the degree bachelor of science (B.S.) are accounting, actuarial science, business analytics, business economics, entrepreneurship, finance, human resource management, management, management information systems, marketing, and supply chain management. The college also offers a secondary major in international business. Elective courses are part of the curriculum. Additionally, the college offers the Bachelor of Business Administration (BBA) online degree completer program.

Curriculum Changes

Iowa State University students who want to change their curriculum to the Ivy College of Business should contact the Undergraduate Programs Office for assistance. For more details on changing curriculum or majors, please visit: https://catalog.iastate.edu/academics/#degreeplanningtext.

Students on Academic Probation will not be allowed to change curriculum to the Ivy College of Business during enrollment period three. See Making Schedule Changes at: http://catalog.iastate.edu/registration/#schedulechangestext

Admission Standards to Professional Programs

All new entering students and curriculum change students are enrolled in the pre-business curriculum. To enter the professional program in the Ivy College of Business, students must complete any required ENGL 099 Strategies for Nonnative Speakers of English courses, any required ENGL 101 English for Native Speakers of Other Languages courses, ENGL 150 Critical Thinking and Communication, at least 30 credits, and the following foundation courses or their approved substitutions:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 150</td>
<td>Discrete Mathematics for Business and Social Sciences</td>
<td>3</td>
</tr>
<tr>
<td>COM S 113</td>
<td>Introduction to Spreadsheets and Databases</td>
<td>3</td>
</tr>
<tr>
<td>ECON 101</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 102</td>
<td>Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>STAT 226</td>
<td>Introduction to Business Statistics I</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 284</td>
<td>Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUSAD 102</td>
<td>Business Learning Team Orientation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>or BUSAD 103 Orientation</td>
<td></td>
</tr>
<tr>
<td>BUSAD 203</td>
<td>Professional Development in Business</td>
<td>1</td>
</tr>
</tbody>
</table>

In addition, all students must achieve an Iowa State University cumulative grade point of 2.5 or a grade point average of 2.5 in the foundation courses listed above. Admission into the professional program is a prerequisite for pre-business students to gain admission into upper-level business classes. With the exception of ACCT 285 Managerial Accounting, pre-business students do not have access to business core or major classes. To facilitate registration, qualified students may be conditionally admitted during the semester in which they complete the admission requirements.

Students who meet the following requirements qualify for early admission to the professional program:

- Students must have a minimum ISU cumulative GPA of 3.50 in at least 12 graded credits or full membership in the University Honors Program.
- Students must have completed all ENGL 99/101 courses (if applicable).

If using the foundation courses for admission to the Professional Program, both transfer grades and Iowa State University grades are used to compute the grade point average. If foundation courses initially taken
Advising System
Each student in the Ivy College of Business has an assigned academic advisor who helps facilitate student progress toward graduation while supporting the academic standards of the College. Students enter as Pre-

Business majors and are guided toward their entrance to the Professional Program (business major) with assistance from professional advisors who continue to work with them through graduation.

Advisors, as part of the Undergraduate Programs Office staff, provide academic services to Business students including development of academic plans, study abroad planning, accessing pertinent University services and resources, and meeting their overall educational objectives.

The College encourages students to attend an orientation program prior to their entry, where information is shared and evaluated to help set the student out on the academic path appropriate to their goals, preparation, interests, and capabilities.

Honors
Entering freshmen who meet one of the following criteria, and have a minimum English ACT of 24, will be invited to apply for membership in the Freshman Honors Program: earned an ACT composite of 30, or ranked in the top 5% of their high school classes; or selected as a National Merit or National Achievement finalist.

Currently enrolled students who have completed 12 graded credits at Iowa State University, earned a cumulative GPA of 3.50 or above, and have more than 48 credit hours remaining until graduation, are eligible to apply for membership to the University Honors Program (UHP). UHP students in the Ivy College of Business will work with designated advisors to incorporate elements of breadth, depth, and leadership into their business education through completion of academic, co-curricular, and personal/professional development experiences. In addition, to graduate with Honors in the Ivy College of Business, students must complete a minimum of two honors-designated courses, two 300-level honors seminars, an honors project, 50 credits of 300-level or higher coursework, and maintain a cumulative GPA of 3.50 or above. Additional details of requirements can be found on the Ivy College of Business Honors website at: https://www.ivybusiness.iastate.edu/advising/honors/

Internships
Credit and non-credit internships in business may be approved for Ivy College of Business students in all majors including pre-business. Credit hours and requirements vary, although internship credits only count as general electives. Arrangements must be made in the college prior to the beginning of the internship. A career coordinator from the Business Career Services Office will assist students in making these arrangements.

Multiple Majors
Undergraduates pursuing a degree in the Ivy College of Business may complete additional majors in the Ivy College of Business. Those desiring additional majors outside the college should refer to the catalog section of the appropriate college and department for the additional major requirements. A multiple major in business economics and agricultural
business or economics is not permitted. A major in business economics with a minor in economics is not permitted.

Undergraduates with a primary major outside the Ivy College of Business who want a second major in business must meet the admission requirements for the professional program as well as complete the following requirements: Foundation, Supporting Courses, Business Core, and major requirements. (Refer to the current Curriculum Guide).

All students pursuing multiple majors or multiple degrees within the Ivy College of Business are required to have a minimum of 15 credits of coursework in each major that is not used in the other majors.

Students are limited to three business majors/degrees/minors within the Ivy College of Business. This limit is on business majors/degrees/minors only, and does not apply to multiple majors/degrees/minors taken outside the Ivy College of Business.

Second Majors, Minors and certificates
International Business Secondary Major
A student in the Ivy College of Business may earn a secondary major in International Business. The requirements for this major include 6 credits of international overview courses, 6 credits of business focus courses, and the completion of one of the three options for global engagement, awareness, and regional perspective. Students who pursue this secondary major will be required to complete the requirements for a primary major in Business. Fifteen of the 18 credits required for the International Business major may not be used for the primary major.

Minor in International Business
Students with a major in the Ivy College of Business may earn a minor in International Business by completing 15 credits of approved coursework. The minor requires one course from the approved International Overview courses, two courses from the approved Business Focus courses, and by completing the Faculty-Led Global Awareness track, or the Foreign Language Global Awareness track, or through a plan of study approved by the Ivy International Programs Office. The minor must include at least six credits in courses numbered 300 or above taken at Iowa State University with a grade of C or higher. The minor must include at least 9 credits that are not used to meet any other department, college, or university requirement. Students with declared majors have priority over students with declared minors in courses with space constraints.

Minor in Business and Technology Consulting
The Department of Marketing offers a specialty minor open to any student with a major in the Ivy College of Business. The Business and Technology Consulting minor prepares you for a career as a business consultant. Every year consulting companies attract talented graduates across the world. As a consultant, you gain broad exposure to business issues, solve different business problems, make an impact on major businesses, and become an expert in a specific business functional area. The minor provides a systematic process for students to strengthen problem-solving skills and prepare them to become better communicators and future leaders.

The minor requires 15 credits from an approved list of courses, including at least 6 credits in courses numbered 300 or above taken at Iowa State University with a grade of C or higher. The minor must include at least 9 credits that are not used to meet any other department, college, or university requirement. Students with declared majors have priority over students with declared minors in courses with space constraints.

Minors for Business Students
Students with a major in the Ivy College of Business may qualify for a minor specialization in one of the college's departments. Minor specializations are available in: Accounting, Business Analytics, Entrepreneurship (see Entrepreneurship Cross-Disciplinary Minor below), Finance, International Business (see Minor in International Business above), Management, Management Information Systems, Marketing, and Supply Chain Management. These minors require at least 15 credit hours in the minor specialization (16 credit hours are required for a minor in Accounting), nine hours of which may not be used to satisfy any other department, college, or university requirement. The minor must include at least 6 credits in courses numbered 300 or above taken at Iowa State University with a grade of C or higher. Students with declared majors have priority over students with declared minors in courses with space constraints.

Students are limited to three business majors/degrees/minors within the Ivy College of Business. This limit is on business majors/degrees/minors only, and does not apply to multiple majors/degrees/minors taken outside the Ivy College of Business.

Minor in General Business for Non-Business Students
The Ivy College of Business offers a structured minor in general business to students outside the College. The minor requires a minimum of 15 credits, not including pre-requisite courses. Requirements for the minor are:

Required Courses (6 credits):

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 284</td>
<td>Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 285</td>
<td>Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>or ACCT 215</td>
<td>Legal Environment of Business</td>
<td></td>
</tr>
</tbody>
</table>

Elective Courses (9 credits):

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENTSP 310</td>
<td>Entrepreneurship and Innovation</td>
<td>3</td>
</tr>
<tr>
<td>or MGMT 310</td>
<td>Entrepreneurship and Innovation</td>
<td></td>
</tr>
<tr>
<td>FIN 301</td>
<td>Principles of Finance</td>
<td>3</td>
</tr>
<tr>
<td>MIS 301</td>
<td>Management Information Systems</td>
<td>3</td>
</tr>
</tbody>
</table>
The minor must include at least 6 credits in courses numbered 300 or above taken at Iowa State University. A "C" average or better is required in courses used to satisfy the minor requirements. All requirements for the minor must be taken for a grade. Students with a major outside the Ivy College of Business are eligible for a general business minor only—not a specific minor specialization from a business department.

Non-Business students may not take more than 9 cr. of 300 or 400 level Business courses.

General Business minor students needing more courses to meet the "nine credit stand alone" rule will need to apply to the Ivy College of Business for an exception, or should consider taking one additional course of ACCT 285 or ACCT 215.

For more information on the General Business minor, please visit: https://ivybusiness.iastate.edu/degree/zminors-and-certificates/

Undergraduate Certificates

Professional Sales Certificate

The certificate in professional sales is a course of study administered by the Department of Marketing in the Ivy College of Business. It is designed for all undergraduate majors who wish to enhance their degree and employment possibilities by adding expertise in professional selling. The certificate program will equip students with knowledge and skills related to developing and managing mutually beneficial relationships with customers. The certificate program is built on a strong theoretical background but emphasizes applications and practice. The certificate provides students with an opportunity to learn about the ethical, technological, analytical, and global aspects of professional sales.

Students need to fulfill the course prerequisites set by the Ivy College of Business. The certificate requires 21 credits from a designated list of courses, of which, a minimum of 9 credits may not be used to meet any other department, college, or university requirement for the baccalaureate degree except to satisfy the total credit requirement for graduation and to meet credit requirements in courses numbered 300 or above.

Business courses listed as electives are available only to business majors. Non-business majors are limited to the 12 credits of required business courses for the certificate.

For more information about the Professional Sales Certificate, please visit: https://catalog.iastate.edu/collegeofbusiness/marketing/#undergraduatecertificatext

Actuarial Science Certificate

The certificate in actuarial science is available from the College of Liberal Arts and Sciences for non-actuarial science majors at Iowa State. The certificate requires 23 credits from a designated list of courses, of which 9 credits must stand-alone. There are 9 prerequisite courses required for the certificate's required courses.

For more information about the Actuarial Science Certificate, please visit: https://catalog.iastate.edu/collegeofbusiness/actuarialscience/#certificatext

Entrepreneurship Cross-Disciplinary Minor

The Ivy College of Business participates in a cross-disciplinary minor in Entrepreneurship. This minor is available to any undergraduate student. Requirements for the minor include, ENTSP 310 Entrepreneurship and Innovation (3 credits), either ENTSP 313 Feasibility Analysis and Business Planning or ENTSP 320 Corporate Entrepreneurship, Innovation and Technology Management or ENTSP 410 Social Entrepreneurship (3 credits), two business-oriented electives from an approved list (6 credits), and an experiential learning component (3 credits). The approved list of courses is available at: https://ivybusiness.iastate.edu/entrepreneurship-minor/. The minor requires at least 15 credits, including at least 6 credits in courses numbered 300 or above taken at Iowa State University with a grade of C or higher. The minor must include at least 9 credits that are not used to meet any other department, college, or university requirement.

Non-degree Seeking Students

Students who wish to take courses in the Ivy College of Business, but are not seeking an undergraduate degree, should apply to the college as non-degree seeking students. Non-degree seeking students are eligible to take up to 9 credits in 300-level and above business courses without meeting the college's admission requirements.

Upper Division Courses for Students Outside the College

Students from outside the Ivy College of Business are eligible to take up to 9 credits of 300-level and above business courses without meeting the college's admission requirements to the professional program, as long as they meet course prerequisites.

Departments of the College

- Accounting
- Finance
- Information Systems and Business Analytics
- Management and Entrepreneurship
Curriculum in Business

The college offers programs of study leading to the degree bachelor of science with a major in accounting, actuarial science, business analytics, business economics, entrepreneurship, finance, human resource management, management, management information systems, marketing, or supply chain management.

The college also offers a secondary major in international business. Total credits required: 122

Total credits required for Actuarial Science: 131

The college also offers a degree completer program leading to a bachelors of business administration (BBA). Total credits required: 120.

See also: A 4-year (8 semester) plan of study for each business degree. (http://catalog.iastate.edu/planofstudy/#collegeofbusinesstext)

Business Curriculum

For Actuarial Science curriculum, please go to: https://ivybusiness.iastate.edu/degree/actuarial-science/

For BBA curriculum, please go to: https://ivybusiness.iastate.edu/degree/bba/

For all Business majors, students may apply 9 P-NP credits of free electives; must earn an overall 2.00 minimum GPA; and apply only 65 credits from a 2-year institution, which may include up to 16 technical credits.

International Perspective: 3 cr. (see footnote 3 below)

U.S. Diversity: 3 cr. (see footnote 4 below)

Communication: 13 cr.

Proficiency met with grade of C or better in ENGL 250, and one additional C or better from either ENGL 150 or ENGL 302.

Humanities/Social Science: 9 cr.

9 cr. from approved humanities/social science list.

Global Perspectives: 6 cr. (SEE Footnote 3 BELOW)

6 cr. from approved global perspectives list.

Natural Science: 3 cr.

3 cr. from approved natural sciences list.

An approved list of the general education courses above are available at: https://ivybusiness.iastate.edu/general-education-requirements/ or from the Undergraduate Programs Office in the Ivy College of Business.

Foundation: 20 cr.

BUSD 102 Business Learning Team Orientation 1

or BUSD 103 Orientation

BUSD 203 Professional Development in Business 1

MATH 150 Discrete Mathematics for Business and Social Sciences 1, 2

COM S 113 Introduction to Spreadsheets and Databases 3

ECON 101 Principles of Microeconomics 3

ECON 102 Principles of Macroeconomics 3

STAT 226 Introduction to Business Statistics I 3

ACCT 284 Financial Accounting 3

Total Credits 20

Supporting Courses: 9-13 cr.

NOTE: Additional supporting courses are required for Actuarial Science. See https://ivybusiness.iastate.edu/degree/actuarial-science/ for specific requirements for Actuarial Science.

MATH 151 Calculus for Business and Social Sciences 1 3

ACCT 215 Legal Environment of Business 3

ACCT 301 The Accounting Cycle (For ACCT majors only) 1 1

MIS 207 Fundamentals of Computer Programming (For MIS majors only) 1 3

STAT 326 Introduction to Business Statistics II (For ACCT, ACSCI, BUSAN, BUSEC, and FIN majors only) 1 3

PHIL 230 Moral Theory and Practice 3

Business Core: 27 cr.

ACCT 285 Managerial Accounting 3

ENTSP 310 Entrepreneurship and Innovation 3

FIN 301 Principles of Finance 3

MIS 301 Management Information Systems 3

MGMT 371 Organizational Behavior 3

MGMT 372 Responsible Management and Leadership in Business 3

MKT 340 Principles of Marketing 3

SCM 301 Supply Chain Management 3

MGMT 478 Strategic Management * 3

Total Credits 27
*All above core courses must be completed before MGMT 478.

**BUSINESS MAJOR:** 18-29 cr. (depending on major)

**ELECTIVES:** 0-17 cr. (depending on major)

**FootNotes:**
1. Accounting, Actuarial Science, Business Analytics, Business Economics, and Finance majors will also take STAT 326 Introduction to Business Statistics II as part of the supporting courses. Business Economics majors will take MATH 160 Survey of Calculus and ECON 207 Applied Economic Optimization instead of MATH 150 Discrete Mathematics for Business and Social Sciences and MATH 151 Calculus for Business and Social Sciences. Accounting majors will take ACCT 301 The Accounting Cycle concurrently with ACCT 285 Managerial Accounting as part of the Supporting Courses. Management Information Systems majors will take MIS 207 Fundamentals of Computer Programming as part of the Supporting Courses.
2. Students not adequately prepared in mathematics may have to take a supplemental course in addition to courses listed above.
3. Students may satisfy the Global/International Perspectives requirement by taking six credit hours from the University International Perspectives list.
4. Courses used for the U.S. Diversity requirements may also be used to fulfill Humanities/Social Sciences.

**Professional Programs**

The Ivy College of Business and the curriculum in Accounting are accredited by AACSB International, the Association to Advance Collegiate Schools of Business.

**Accounting major:** 21 cr.
https://ivybusiness.iastate.edu/degree/accounting/

**Actuarial Science major:** 29 cr.
https://ivybusiness.iastate.edu/degree/actuarial-science/

**Business Analytics major:** 21 cr.
https://ivybusiness.iastate.edu/degree/business-a/

**Business Economics major:** 19 cr.
https://ivybusiness.iastate.edu/degree/business-economics/

**Entrepreneurship major:** 18 cr.
https://ivybusiness.iastate.edu/degree/entrepreneurship/

**Finance major:** 21 cr.
https://ivybusiness.iastate.edu/degree/finance/

**Healthcare Management:** 24 CR.
https://ivybusiness.iastate.edu/degree/healthcare-management/

**Human Resource Management Major:** 21 CR.
https://www.ivybusiness.iastate.edu/degree/human-resource-management/

**Management major:** 18 cr.
https://ivybusiness.iastate.edu/degree/management/

**Management Information Systems major:** 18 cr.
https://ivybusiness.iastate.edu/degree/management-information-systems/

**Marketing major:** 18 cr.
https://ivybusiness.iastate.edu/degree/marketing/

**Supply Chain Management major:** 18 cr.
https://ivybusiness.iastate.edu/degree/supply-chain-management/

**International Business Secondary major:** 18 cr.
https://ivybusiness.iastate.edu/degree/international-business/

**Bachelor of Science**

The bachelor of science (B.S.) degree offers a high quality professional education in business. It prepares students for professional careers in specialized functions of business and government. Candidates for this degree must satisfy the requirements established by the Ivy College of Business and also the requirements for individual majors specified by the departments of the College. All candidates for the B.S. degree are required to complete one of the following majors: accounting, actuarial science, business analytics, business economics, entrepreneurship, finance, management, management information systems, marketing, or supply chain management.

**Majors**

Accounting (http://catalog.iastate.edu/collegeofbusiness/accounting/#undergraduatetext)

Actuarial Science (http://catalog.iastate.edu/collegeofbusiness/actuarialscience/#undergraduatemajortext)

Business Analytics (http://catalog.iastate.edu/collegeofbusiness/businessanalytics/#undergraduatemajortext)

Business Economics (http://catalog.iastate.edu/collegeofbusiness/businesseconomics/#departmentstext)

Entrepreneurship (http://catalog.iastate.edu/collegeofbusiness/entrepreneurship/#undergraduatemajortext)

Finance (http://catalog.iastate.edu/collegeofbusiness/finance/#undergraduatetext)

Healthcare Management (http://catalog.iastate.edu/collegeofbusiness/healthcaremanagement/#text)

Human Resource Management (http://catalog.iastate.edu/collegeofbusiness/humanresourceManagement/#text)
International Business (http://catalog.iastate.edu/collegeofbusiness/internationalbusiness/#secondaryundergraduatemajortext)  (second major only)
Management (http://catalog.iastate.edu/collegeofbusiness/management/#undergraduatecertificatetext)
Management Information Systems (http://catalog.iastate.edu/collegeofbusiness/managementinformatisonsystems/#undergraduatecertificatetext)
Marketing (http://catalog.iastate.edu/collegeofbusiness/marketing/#undergraduatecertificatetext)
Supply Chain Management (http://catalog.iastate.edu/collegeofbusiness/supplychainmanagement/#undergraduatecertificatetext)

Minors

For Business Majors Only
Accounting (http://catalog.iastate.edu/collegeofbusiness/accounting/#undergraduatecertificatetext)
Business Analytics (http://catalog.iastate.edu/collegeofbusiness/businessanalytics/#undergraduatecertificatext)
Business and Technology Consulting (http://catalog.iastate.edu/collegeofbusiness/marketing/#undergraduatecertificatetext)
Entrepreneurship (http://catalog.iastate.edu/interdisciplinaryprograms/ minor/entrepreneurship/#undergraduatecertificatetext)
Finance (http://catalog.iastate.edu/collegeofbusiness/finance/#undergraduatecertificatetext)
International Business (http://catalog.iastate.edu/collegeofbusiness/internationalbusiness/#undergraduatecertificatetext)
Management (http://catalog.iastate.edu/collegeofbusiness/management/#undergraduatecertificatetext)
Management Information Systems (http://catalog.iastate.edu/collegeofbusiness/managementinformatisonsystems/#undergraduatecertificatetext)
Marketing (http://catalog.iastate.edu/collegeofbusiness/marketing/#undergraduatecertificatetext)
Supply Chain Management (http://catalog.iastate.edu/collegeofbusiness/supplychainmanagement/#undergraduatecertificatetext)

For Non-Business Majors
General Business Minor
Entrepreneurship (http://catalog.iastate.edu/interdisciplinaryprograms/ minor/entrepreneurship/#undergraduatecertificatetext)

Certificates

For any ISU major

Professional Sales Certificate (http://catalog.iastate.edu/ collegeofbusiness/marketing/#undergraduatecertificatetext)

GRADUATE STUDY
Masters Programs

Seven programs are offered at the master's level: a master of business administration (MBA), a master of accounting (MAcc), a master of business analytics (MoBA), a master of finance (MFIN), a masters in healthcare analytics and operations (MHAMO), a master of real estate development (MRED), and a master of science in information systems (MSIS). These programs are intended to meet distinct sets of educational objectives.

The master of business administration (MBA) is the professional management education program for those pursuing careers in business. The goal of the MBA program is to educate future business leaders preparing them for the challenges of tomorrow by giving them the vision, knowledge, skills, and confidence to make the best decisions for all involved stakeholders. The MBA program consists of a 48-credit curriculum leading to a non-thesis, non-creative component master of business administration. Students may pursue a specialization in accounting, business analytics, finance, information systems, leadership, marketing, or supply chain management.

The Ivy College of Business also offers a business administration minor to students with majors outside the college. For more information on the graduate minor in business administration, please visit: https://ivybusiness.iastate.edu/degree/graduate-minors/

A concurrent BS/MBA is available to eligible engineering undergraduate students majoring in aerospace, agricultural, biological systems, chemical, civil, computer, construction, cybersecurity, electrical, industrial, materials science, mechanical, or software engineering. A concurrent BS/MBA is available to eligible undergraduate students majoring in agricultural systems technology, agronomy, animal science, chemistry, computer science, food science, geology, industrial design, industrial technology, and meteorology.

Double degree programs are offered with architecture (MArch/MBA), community and regional planning (MBA/MCRP), finance (MBA/MFIN), and information systems (MBA/MSIS). A double degree program (DVM/MBA) is available to eligible Veterinary Medicine students as well.

The master of accounting (MAcc) is designed to meet the needs of accountants in public or private accounting, focusing on interpreting and analyzing accounting information for decision-making and preparing students for certification as a Certified Public Accountant (CPA) or Certified Management Accountant (CMA). The 30-hour program requires 15 hours of graduate accounting courses, including courses in data analytics and communications. Students may pursue a specialization in

The master of business analytics (MoBA) is an interdisciplinary program that addresses the challenges of dealing with data analytics and business intelligence in the "Big Data" environment. The goal is to develop managers who will master analytics in ways that lead to increased profits for their company. This online program offers a comprehensive approach that draws from Business, Computer Science, Electrical and Computer Engineering, Statistics, and Industrial and Manufacturing Systems Engineering. It provides a foundation in data analytics project management, statistical and predictive modeling, consumer sentiment analysis, knowledge discovery, analytical reporting, segmentation analysis and data visualization. The program requires 30 credits of graduate level courses over a 21 month period.

A certificate in business analytics is also available for working professionals. The certificate requires a minimum of 12 graduate level approved credits, which may be taken either on-line or face-to-face. For more information on the graduate certificate in business analytics, please visit: http://catalog.iastate.edu/collegeofbusiness/businessanalytics/

The master of finance (MFIN) is designed to provide students with in-depth coverage of financial topics and a strong quantitative skill set. Students will learn financial analysis, valuation, modeling, and risk management techniques. The 30-credit program requires 24 finance credits, of which 6 are finance electives. The remaining 6 credits are electives selected from any related area.

A certificate in finance is also available. The certificate requires a minimum of 12 graduate level approved credits, which may only be taken face-to-face. For more information on the graduate certificate in finance, please visit: http://catalog.iastate.edu/collegeofbusiness/finance/

The master of science in information systems (MSIS) is designed to provide students with strong technical skills and a broad background in business needed to effectively develop and manage information systems projects. The 30 credit program includes business foundation courses, information systems core courses and electives, and a research requirement (creative component). A certificate in enterprise cybersecurity management is also available. The certificate requires a minimum of 12 graduate level approved credits, which may be taken either on-line or face-to-face. For more information on the graduate certificate in enterprise cybersecurity management, please visit: http://catalog.iastate.edu/collegeofbusiness/managementinformationsystems/

Students graduating from the Masters in Healthcare Analytics and Operations (MHAO) program will apply data and appropriate models to analyze operations and supply chains to develop and present actionable insights leading to better outcomes in the healthcare industry. Healthcare analytics uses historical and current data to predict trends and optimize operations, bringing benefits to patients, medical professionals, and healthcare supply chain partners.

The certificate in entrepreneurship and innovation is also available. The certificate requires a minimum of 12 graduate level approved credits, which may be taken either on-line or face-to-face. For more information on the graduate certificate in entrepreneurship and innovation, please visit: http://catalog.iastate.edu/collegeofbusiness/entrepreneurship/

The Ivy College of Business participates in the following graduate level interdepartmental programs: Cyber Security, Engineering Management, Human Computer Interaction, Seed Technology and Business, and Transportation.

Ph.D. in Business and Technology
The Ivy College of Business offers graduate work leading to the Doctor of Philosophy degree in business and technology, with one of six specializations—entrepreneurship (ENTSP), finance (FIN), management information systems (MIS), management (MGM), marketing (MKT), or supply chain management (SCM). Departments in the college (Finance, Management and Entrepreneurship, Marketing, Supply Chain Management, and Information Systems and Business Analytics),
along with select other departments from across campus cooperate in providing coursework toward this degree. The program prepares individuals for academic careers in research, teaching, and public service at institutions of higher learning in the United States and other countries. The PhD program consists of a 44-credit course curriculum followed by a 12-credit thesis or dissertation. Students do not need to have an undergraduate degree or master's degree in business in order to qualify for enrollment in the PhD program. However, students without a graduate degree in business will be required to complete 18 credit hours of business foundation courses. For more details or application information contact the Graduate Programs office in the Ivy College of Business or visit: https://ivybusiness.iastate.edu/phd/