BUSINESS ANALYTICS - M.S.

Ambassador Crawford College of Business and Entrepreneurship
Department of Management and Information Systems
www.kent.edu/business/mis

Contact Information
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Fully Offered
• Delivery:
  • Fully online
  • In person
• Location:
  • Kent Campus

Admission Terms
• Fall
• Spring

Examples of Possible Careers*
Chief executives
• -10.0% decline
• 287,900 number of jobs
• $185,950 potential earnings

Data scientists and mathematical science occupations, all other
• 30.9% much faster than the average
• 33,200 number of jobs
• $98,230 potential earnings

General and operations managers
• 5.8% faster than the average
• 2,486,400 number of jobs
• $103,650 potential earnings

Management analysts
• 10.7% much faster than the average
• 876,300 number of jobs
• $87,660 potential earnings

Operations research analysts
• 24.8% much faster than the average
• 105,100 number of jobs
• $86,200 potential earnings

Statisticians
• 34.6% much faster than the average
• 42,700 number of jobs
• $92,270 potential earnings

*Note
Source of occupation titles and labor data is from the U.S. Bureau of Labor Statistics’ Occupational Outlook Handbook. Data comprises projected percent change in employment over the next 10 years; nation-wide employment numbers; and the yearly median wage at which half of the workers in the occupation earned more than that amount and half earned less.

Description
The Master of Science degree in Business Analytics provides students with a comprehensive knowledge of analytics that balances the technologies, analytical methods and business expertise needed to glean useful information from data to make strategic business decisions. The language of business today is dependent on information and data management, and the emergence of advanced technologies for capturing, preparing and analyzing data provides unprecedented opportunities for those with business analytics expertise that spans all industries and organizations.

Students in the Business Analytics major gain the technical, analytical, communication, decision-making and leadership skills needed to be successful business analysts. The curriculum includes integrative capstone analysis projects, and there is an internship option for additional professional development through the on-site Career Services Office.

Accreditation
AACSB International - The Association to Advance Collegiate Schools of Business

Admission Requirements
• Bachelor’s degree from an accredited college or university
• Minimum 3.000 undergraduate GPA on a 4.000-point scale
• Official transcript(s)
• GMAT or GRE (effective spring 2023, GMAT or GRE will no longer be required)
• Résumé
• Goal statement
• Two letters of recommendation
• English language proficiency - all international students must provide proof of English language proficiency (unless they meet specific exceptions) by earning one of the following:
  • Minimum 550 TOEFL PBT score (paper-based version)
  • Minimum 79 TOEFL IBT score (internet-based version)
  • Minimum 77 MELAB score
  • Minimum 6.5 IELTS score
  • Minimum 58 PTE score
  • Minimum 110 Duolingo English Test score

For more information about graduate admissions, visit the graduate admission website. For more information on international admission, visit the Office of Global Education’s admission website.

1 Students entering the program are expected to have the requisite backgrounds in statistics, mathematics, computers and business required for the program. At a minimum, students should have general knowledge of inferential statistics, adequate general business knowledge, basic knowledge of business information systems and technologies and a solid understanding of algebra and general
mathematics with some exposure to calculus. Students may fulfill deficiencies in these prerequisites by taking CIS 24053, MATH 11012, MGMT 24056, MGMT 24163 or equivalents as applicable. The business analytics program director may consider concurrent enrollment according to the strength of the student’s baccalaureate curriculum and preparedness and the courses proposed to be taken concurrently with the prerequisites.

### Program Learning Outcomes

Graduates of the program will be able to:

1. Identify key characteristics of the business problem
2. Identify opportunities and constraints of various data analytical frameworks and tools
3. Formulate appropriate data analytic techniques to solve the business problem
4. Perform necessary data preparation steps (retrieve, clean and manipulate data)
5. Demonstrate necessary theoretical knowledge and practical skills to implement several data-analytic frameworks using different tools
6. Lead and work with teams to frame the business problem
7. Convey in writing the outcomes of analytics for stakeholders
8. Use visual outcomes of analytics to communicate orally effective messages for stakeholders

### Program Requirements

#### Major Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>MIS 64018</td>
<td>QUANTITATIVE MANAGEMENT MODELING</td>
<td>3</td>
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<tr>
<td>MIS 64036</td>
<td>BUSINESS ANALYTICS</td>
<td>3</td>
</tr>
<tr>
<td>MIS 64082</td>
<td>DATABASE MANAGEMENT AND DATABASE ANALYTICS</td>
<td>3</td>
</tr>
<tr>
<td>MIS 64037</td>
<td>ADVANCED DATA MINING AND PREDICTIVE ANALYTICS</td>
<td>3</td>
</tr>
<tr>
<td>MIS 64038</td>
<td>ANALYTICS IN PRACTICE</td>
<td>3</td>
</tr>
<tr>
<td>MIS 64060</td>
<td>FUNDAMENTALS OF MACHINE LEARNING</td>
<td>3</td>
</tr>
<tr>
<td>MIS 64061</td>
<td>ADVANCED MACHINE LEARNING</td>
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**Major Electives, choose from the following:**

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<tr>
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<tbody>
<tr>
<td>CS 63015</td>
<td>DATA MINING TECHNIQUES</td>
</tr>
<tr>
<td>CS 63016</td>
<td>BIG DATA ANALYTICS</td>
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<tr>
<td>ECON 62054</td>
<td>ECONOMETRICS I</td>
</tr>
<tr>
<td>EMAT 61010</td>
<td>ENTERPRISE ARCHITECTURE</td>
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<tr>
<td>EMAT 64210</td>
<td>DATA SCIENCE</td>
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<tr>
<td>HI 60411</td>
<td>CLINICAL ANALYTICS</td>
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<tr>
<td>KM 60370</td>
<td>SEMANTIC ANALYSIS METHODS AND TECHNOLOGIES</td>
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<tr>
<td>MIS 54011</td>
<td>SYSTEMS SIMULATION</td>
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<tr>
<td>MIS 54050</td>
<td>DATA VISUALIZATION</td>
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<tr>
<td>MIS 64028</td>
<td>GLOBAL SUPPLY CHAIN BUSINESS MODELS</td>
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<td>MIS 64099</td>
<td>CAPSTONE PROJECT IN BUSINESS ANALYTICS</td>
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<tr>
<td>MIS 64160</td>
<td>LEADERSHIP AND ORGANIZATIONAL CHANGE</td>
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<td>MKTG 65057</td>
<td>MARKETING RESEARCH</td>
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#### Culminating Requirement

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<tbody>
<tr>
<td>MIS 64092</td>
<td>INTERNSHIP IN BUSINESS ANALYTICS</td>
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**Minimum Total Credit Hours:** 30

### Graduation Requirements

Minimum 30 credit hours required for the degree is the assumption that students do not have any unmet requirements they need to be successful in the program. The business analytics program coordinator may make further determination of a student’s preparedness for the program and what prerequisite courses, if any, may be required.