DECISION ANALYTICS, MASTER OF (M.D.A.)

Program accreditation
Association to Advance Collegiate Schools of Business (http://www.aacsb.edu)

Program goal
The Master of Decision Analytics provides students with knowledge of the statistical, mathematical and scientific skills and experience necessary to utilize advanced methods of data analysis for business decision-making.

Student learning outcomes
1. Analytic skills: Students will demonstrate the ability to develop appropriate hypotheses, test those hypotheses, draw logical conclusions and make reasonable decisions based on available information.
2. Quantitative skills: Students will demonstrate the ability to apply quantitative procedures and apply data-driven decision approaches to solving problems in contemporary organizations using business-oriented computational software.
3. Communication skills: Students will demonstrate the ability to communicate complex business problems by any appropriate method, including graphical displays of data to express ideas with clarity.
4. Students will demonstrate the ability to discern an ethical dilemma in a business context and determine the appropriate course of action to communicate data and analyses ethically.

VCU Graduate Bulletin, VCU Graduate School and general academic policies and regulations for all graduate students in all graduate programs
The VCU Graduate Bulletin website documents the official admission and academic rules and regulations that govern graduate education for all graduate programs at the university. These policies are established by the graduate faculty of the university through their elected representatives to the University Graduate Council.

It is the responsibility of all graduate students, both on- and off-campus, to be familiar with the VCU Graduate Bulletin as well as the Graduate School website and academic regulations in individual school and department publications and on program websites. However, in all cases, the official policies and procedures of the University Graduate Council, as published on the VCU Graduate Bulletin and Graduate School websites, take precedence over individual program policies and guidelines.

Visit the academic regulations section for additional information on academic regulations for graduate students.

Degree candidacy requirements
A graduate student admitted to a program or concentration requiring a final research project, work of art, thesis or dissertation, must qualify for continuing master’s or doctoral status according to the degree candidacy requirements of the student’s graduate program. Admission to degree candidacy, if applicable, is a formal statement by the graduate student’s faculty regarding the student’s academic achievements and the student’s readiness to proceed to the final research phase of the degree program.

Graduate students and program directors should refer to the following degree candidacy policy as published in the VCU Graduate Bulletin for complete information and instructions.

Visit the academic regulations section for additional information on degree candidacy requirements.

Graduation requirements
As graduate students approach the end of their academic programs and the final semester of matriculation, they must make formal application to graduate. No degrees will be conferred until the application to graduate has been finalized.

Graduate students and program directors should refer to the following graduation requirements as published in the Graduate Bulletin for a complete list of instructions and a graduation checklist.

Visit the academic regulations section for additional information on graduation requirements.

Other information
School of Business policies and procedures for graduate master’s degree students are available on the school’s website at business.vcu.edu/graduate-studies/current-graduate-students (http://business.vcu.edu/graduate-studies/current-graduate-students).

Apply online at graduate.admissions.vcu.edu (http://www.graduate.admissions.vcu.edu).

Admission requirements
<table>
<thead>
<tr>
<th>Degree:</th>
<th>Semester(s) of entry:</th>
<th>Deadline dates:</th>
<th>Test requirements:</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.D.A.</td>
<td>Fall</td>
<td>Jul 1</td>
<td>GMAT or GRE*</td>
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<tr>
<td></td>
<td>Spring</td>
<td>Nov 1</td>
<td></td>
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<tr>
<td></td>
<td>Summer</td>
<td>Mar 1</td>
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In addition to the general admission requirements of the VCU Graduate School (http://bulletin.vcu.edu/graduate/study/admission-graduate-study/admission-requirements), applicants must submit an up-to-date resume.

*Test requirements may be waived for candidates with an undergraduate or graduate degree from an accredited U.S. institution with a minimum GPA of 3.25. Waiver request information can be found on the Graduate Studies in Business webpage (https://business.vcu.edu/graduate-studies/how-to-apply).

Degree requirements
The decision analytics degree provides students with knowledge of quantitative skills and experience in analyzing problems and using data for decision-making in a business environment. Depending upon individual student interests and adviser approval, the required nucleus is supplemented with relevant elective courses from within the School of Business or from outside departments.

In addition to the VCU Graduate School graduation requirements (http://bulletin.vcu.edu/academic-regs/grad/graduation-info):
1. All students must have completed a course in calculus and database systems. Students must also be proficient at an intermediate level with a spreadsheet. These prerequisites can be met after admission to the program.

2. At the time of application, all undergraduate and graduate transcripts will be reviewed to determine if the following prerequisite courses and/or foundation course may be waived. A waiver may be awarded when a student demonstrates equivalent knowledge, such as completing the required undergraduate equivalent course to the satisfaction of the admission committee.

### Prerequisites

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>INFO 364</td>
<td>Database Systems</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 212</td>
<td>Differential Calculus and Optimization for Business</td>
<td>3</td>
</tr>
<tr>
<td>or MATH 200</td>
<td>Calculus with Analytic Geometry</td>
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</tbody>
</table>

### Curriculum requirements

#### Foundation course

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCMA 524</td>
<td>Statistical Fundamentals for Business Management</td>
<td>3</td>
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</tbody>
</table>

#### Required core courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFO 610</td>
<td>Analysis and Design of Database Systems</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 632</td>
<td>Statistical Analysis and Modeling</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 645</td>
<td>Management Science</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 648</td>
<td>Analytics for Organizational Decision-making</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 669</td>
<td>Developing and Implementing Forecasting Methods for Business</td>
<td>3</td>
</tr>
</tbody>
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#### Approved electives

Select 15 credits from:

- ACCT 608  Managerial Accounting Concepts
- ECON 501  Introduction to Econometrics
- ECON 612  Econometrics
- ECON 614  Mathematical Economics
- FIRE 629  Real Estate Investment Analysis
- FIRE 635  Investments and Security Analysis
- INFO 609  Data-centric Re-engineering Analysis/Planning
- INFO 611  Data Re-engineering
- INFO 614  Data Mining
- INFO 616  Data Warehousing
- INFO 632  Business Process Engineering
- INFO 664  Information Systems for Business Intelligence
- MGMT 642  Business Policy and Strategy
- MKTG 673  Marketing Research
- MKTG 678  Marketing Analytics
- OPER 528  Stochastic Simulation
- OPER/STAT 636  Machine Learning Algorithms
- OPER 643  Decision and Risk Analysis
- OPER 647  Multiobjective Decision Analysis
- SCMA 602  Global Supply Chain Management

### Total graduate credit hours required (minimum) 33 (30 if foundation course is waived)

**Graduate program director**
Austen Gouldman
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**Additional contact**
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Phone: (804) 828-4622

**Program website**: business.vcu.edu/graduate/dsba.html (http://business.vcu.edu/graduate/dsba.html)