

MASTER OF BUSINESS ADMINISTRATION (STEM)

While the master of business administration (MBA) program offers all students a STEM-enhanced core education, students may choose to pursue a STEM-designated track by choosing elective courses in management sciences. Students in STEM programs develop advanced knowledge of business management through analytics, technology, and their application to the business environment. The STEM-designated MBA is available in many of the formats in which the MBA is offered. The program normally is completed in 21 to 27 months, depending on the format.

Visit the program website (<https://business.gwu.edu/academics/programs/mba/>) for additional program information.

REQUIREMENTS

The following requirements must be fulfilled:

Global STEM MBA—53 credits, including 32 credits in required courses, 3 credits in analytics/technology-focused courses, and 15 credits in STEM-focused elective courses.

Accelerated STEM MBA—46.5 credits, including 31.5 credits in required courses, 3 credits in analytics/technology-focused courses, and 12 credits in STEM-focused elective courses.

Global STEM MBA

| Code | Title | Credits |
|-----------------|-----------------------------------------|---------|
| Required | | |
| MBAD 6206 | Professionalism as a Performative Art | |
| MBAD 6207 | Leadership Lab | |
| MBAD 6211 | Financial Accounting | |
| MBAD 6213 | Accounting for Internal Decision Making | |
| MBAD 6223 | Operations Management | |
| MBAD 6224 | Decision Making and Data Analysis | |
| MBAD 6235 | Finance | |
| MBAD 6240 | Competition in the Global Economy | |
| MBAD 6242 | Microeconomics for the World Economy | |
| MBAD 6250 | Technology for Business in DC | |
| MBAD 6263 | Organizations and Human Capital | |
| MBAD 6274 | Marketing | |
| MBAD 6281 | Business Ethics | |
| MBAD 6284 | Business and Public Policy | |

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| MBAD 6286 | Strategic Management I |
| MBAD 6287 | Strategic Management II |

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| MBAD 6294 | Consulting Abroad Project |
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Students must complete two enrollments in MBAD 6294 for a total of 3 credits, one on-campus and the other as the study abroad component of the Consulting Abroad Project.

Analytics/technology focused courses

3 credits selective from the following courses. ISTM 6500 may be repeated for credit provided the topics differ.

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| DNSC 6209 | Forecasting for Analytics |
| DNSC 6215 | Social Network Analytics |
| DNSC 6232 | Machine Learning for Managers |
| DNSC 6240 | Decision Models for Managers |
| DNSC 6320 | Pricing and Revenue Management |
| DNSC 6321 | Social Network Analytics |
| DNSC 6323 | Visualization for Analytics |
| DNSC 6325 | Business Process Simulation |
| DNSC 6327 | Sports Analytics |
| ISTM 6500 | Technology Skills for Managers |

Students may enroll in these courses multiple times with different topics.

STEM electives

15 credits in courses selected from the following:

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| ACCY 6106 | Financial Statement Analysis |
| ACCY 6202 | Advanced Strategic Cost Management |
| ACCY 6501 | Accounting Information Systems and Electronic Data Processing |
| ACCY 6900 | Special Topics (Data Analytics for Accounting) |
| DNSC 6209 | Forecasting for Analytics |
| DNSC 6210 | Decision and Risk Analytics |
| DNSC 6232 | Machine Learning for Managers |
| DNSC 6240 | Decision Models for Managers |
| DNSC 6251 | Optimization Models for Decision Making |

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| DNSC 6252 | Risk Analysis for Decision Making | EMSE 6325 | Medical and Public Health Emergency Management ** |
| DNSC 6254 | Risk Measurement and Management | EMSE 6345 | Building the Resilient Organization: Continuity, Crisis and Disaster Recovery Management ** |
| DNSC 6257 | Cost Estimation and Control | EMSE 6350 | Managing Disaster Resilience Through Hazard and Threat Mitigation ** |
| DNSC 6262 | Integrated Project Analytics | FINA 6221 | Financial Decision Making |
| DNSC 6278 | Big Data Analytics | FINA 6223 | Investment Analysis and Portfolio Management |
| DNSC 6280 | Supply Chain Analytics | FINA 6224 | Financial Management |
| DNSC 6302 | Programming for Analytics I * | FINA 6234 | New Venture Financing |
| DNSC 6303 | Programming for Analytics II * | FINA 6239 | Applied Portfolio Management |
| DNSC 6311 | Stochastic Foundation: Probability Models * | FINA 6290 | Special Topics (Investment Analysis/ Venture Capital) |
| DNSC 6312 | Statistics for Analytics I * | IBUS 6301 | International Business Finance |
| DNSC 6314 | Machine Learning I * | ISTM 6200 | Programming in Python and R |
| DNSC 6315 | Machine Learning II * | ISTM 6201 | Information Systems Development and Applications |
| DNSC 6320 | Pricing and Revenue Management | ISTM 6202 | Relational Databases |
| DNSC 6321 | Social Network Analytics | ISTM 6203 | Managing Cloud Security |
| DNSC 6323 | Visualization for Analytics | ISTM 6204 | Information Technology Project Management |
| DNSC 6325 | Business Process Simulation | ISTM 6206 | Information Systems Security |
| DNSC 6327 | Sports Analytics | ISTM 6209 | Web and Social Analytics |
| EMSE 6200 | Policy Factors in Environmental and Energy Management ** | ISTM 6213 | Cloud Applications |
| EMSE 6220 | Environmental Management ** | ISTM 6214 | Foundations of Artificial Intelligence |
| EMSE 6225 | Air Quality Management ** | ISTM 6215 | Human-Computer Interaction |
| EMSE 6230 | Hazardous Waste Management and Cleanup ** | ISTM 6216 | Mobile Application Development |
| EMSE 6235 | Water Quality Management ** | ISTM 6217 | Internet of Things Management |
| EMSE 6245 | Analytical Tools for Environmental Management ** | ISTM 6218 | Business Applications of Artificial Intelligence |
| EMSE 6260 | Energy Management ** | ISTM 6222 | IS/IT Strategy and Implementation |
| EMSE 6285 | Analytical Tools for Energy Management ** | ISTM 6223 | Technology Entrepreneurship |
| EMSE 6305 | Crisis and Emergency Management ** | ISTM 6224 | Management of Technology and Innovation |
| EMSE 6310 | Information Technology in Crisis and Emergency Management ** | ISTM 6225 | Cloud Foundations |
| EMSE 6315 | Risk Management, Hazard Analysis, and Risk-Based Decision Making ** | | |

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| ISTM 6233 | Emerging Technologies |
| ISTM 6234 | New Venture Financing |
| MGT 6290 | Special Topics (HR Analytics) |
| MKTG 6243 | Marketing Research |
| MKTG 6261 | Dynamic Pricing Strategy |
| MKTG 6262 | Digital Marketing Analytics |
| MKTG 6263 | Marketing Decision Analytics |
| MKTG 6264 | Artificial Intelligence and Machine Learning for Marketing Automation |
| MKTG 6265 | Marketing Relational Databases and Customer Relationship Management |
| MKTG 6290 | Special Topics (AI & Marketing Strategy) |
| TSTD 6221 | Tourism, Hospitality, and Event Market Analysis |

STEM MBA—accelerated and professional formats

| Code | Title | Credits |
|-----------------|-----------------------------------------|---------|
| Required | | |
| MBAD 6205 | Business Essentials for Dynamic Markets | |
| MBAD 6211 | Financial Accounting | |
| MBAD 6213 | Accounting for Internal Decision Making | |
| MBAD 6223 | Operations Management | |
| MBAD 6224 | Decision Making and Data Analysis | |
| MBAD 6235 | Finance | |
| MBAD 6240 | Competition in the Global Economy | |
| MBAD 6242 | Microeconomics for the World Economy | |
| MBAD 6250 | Technology for Business in DC | |
| MBAD 6263 | Organizations and Human Capital | |
| MBAD 6274 | Marketing | |
| MBAD 6288 | Strategic Management | |
| MBAD 6289 | Business Ethics and Public Policy | |

Analytics/technology focused courses

3 credits selected from the following courses. ISTM 6500 may be repeated for credit provided the topics differ.

| | |
|-----------|--------------------------------|
| DNSC 6209 | Forecasting for Analytics |
| DNSC 6215 | Social Network Analytics |
| DNSC 6232 | Machine Learning for Managers |
| DNSC 6240 | Decision Models for Managers |
| DNSC 6320 | Pricing and Revenue Management |
| DNSC 6321 | Social Network Analytics |
| DNSC 6323 | Visualization for Analytics |
| DNSC 6325 | Business Process Simulation |
| DNSC 6327 | Sports Analytics |
| ISTM 6500 | Technology Skills for Managers |

Students may enroll in these courses multiple times with different topics.

STEM electives

12 credits in courses selected from the following:

| | |
|-----------|---------------------------------------------------------------|
| ACCY 6106 | Financial Statement Analysis |
| ACCY 6202 | Advanced Strategic Cost Management |
| ACCY 6501 | Accounting Information Systems and Electronic Data Processing |
| ACCY 6900 | Special Topics (Data Analytics for Accounting) |
| DNSC 6209 | Forecasting for Analytics |
| DNSC 6210 | Decision and Risk Analytics |
| DNSC 6232 | Machine Learning for Managers |
| DNSC 6240 | Decision Models for Managers |
| DNSC 6251 | Optimization Models for Decision Making |
| DNSC 6252 | Risk Analysis for Decision Making |
| DNSC 6254 | Risk Measurement and Management |
| DNSC 6257 | Cost Estimation and Control |
| DNSC 6262 | Integrated Project Analytics |
| DNSC 6278 | Big Data Analytics |
| DNSC 6280 | Supply Chain Analytics |
| DNSC 6302 | Programming for Analytics I * |
| DNSC 6303 | Programming for Analytics II * |

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| DNSC 6311 | Stochastic Foundation: Probability Models * | FINA 6234 | New Venture Financing |
| DNSC 6312 | Statistics for Analytics I * | FINA 6239 | Applied Portfolio Management |
| DNSC 6314 | Machine Learning I * | FINA 6290 | Special Topics (Investment Analysis/ Venture Capital) |
| DNSC 6315 | Machine Learning II * | IBUS 6301 | International Business Finance |
| DNSC 6320 | Pricing and Revenue Management | ISTM 6200 | Programming in Python and R |
| DNSC 6321 | Social Network Analytics | ISTM 6201 | Information Systems Development and Applications |
| DNSC 6323 | Visualization for Analytics | ISTM 6202 | Relational Databases |
| DNSC 6325 | Business Process Simulation | ISTM 6203 | Managing Cloud Security |
| DNSC 6327 | Sports Analytics | ISTM 6204 | Information Technology Project Management |
| EMSE 6200 | Policy Factors in Environmental and Energy Management ** | ISTM 6206 | Information Systems Security |
| EMSE 6220 | Environmental Management ** | ISTM 6209 | Web and Social Analytics |
| EMSE 6225 | Air Quality Management ** | ISTM 6213 | Cloud Applications |
| EMSE 6230 | Hazardous Waste Management and Cleanup ** | ISTM 6214 | Foundations of Artificial Intelligence |
| EMSE 6235 | Water Quality Management ** | ISTM 6215 | Human-Computer Interaction |
| EMSE 6245 | Analytical Tools for Environmental Management ** | ISTM 6216 | Mobile Application Development |
| EMSE 6260 | Energy Management ** | ISTM 6217 | Internet of Things Management |
| EMSE 6285 | Analytical Tools for Energy Management ** | ISTM 6218 | Business Applications of Artificial Intelligence |
| EMSE 6305 | Crisis and Emergency Management ** | ISTM 6222 | IS/IT Strategy and Implementation |
| EMSE 6310 | Information Technology in Crisis and Emergency Management ** | ISTM 6223 | Technology Entrepreneurship |
| EMSE 6315 | Risk Management, Hazard Analysis, and Risk-Based Decision Making ** | ISTM 6224 | Management of Technology and Innovation |
| EMSE 6325 | Medical and Public Health Emergency Management ** | ISTM 6225 | Cloud Foundations |
| EMSE 6345 | Building the Resilient Organization: Continuity, Crisis and Disaster Recovery Management ** | ISTM 6233 | Emerging Technologies |
| EMSE 6350 | Managing Disaster Resilience Through Hazard and Threat Mitigation ** | ISTM 6234 | New Venture Financing |
| FINA 6221 | Financial Decision Making | MGT 6290 | Special Topics (HR Analytics) |
| FINA 6223 | Investment Analysis and Portfolio Management | MKTG 6243 | Marketing Research |
| FINA 6224 | Financial Management | MKTG 6261 | Dynamic Pricing Strategy |
| | | MKTG 6262 | Digital Marketing Analytics |
| | | MKTG 6263 | Marketing Decision Analytics |
| | | MKTG 6264 | Artificial Intelligence and Machine Learning for Marketing Automation |

MKTG 6265 Marketing Relational Databases and
Customer Relationship Management

MKTG 6290 Special Topics (AI and Marketing Strategy)

TSTD 6221 Tourism, Hospitality, and Event Market
Analysis

*To take this course, students must be admitted to the graduate certificate in business analytics program.

**To take this course, students must be admitted to one of the following corresponding graduate certificates: business crisis, continuity, and recovery management; energy systems management; and environmental systems management.

COMBINED PROGRAMS

Combined programs

- Dual Master of Business Administration (STEM) and Master of Science in the field of applied finance (<https://bulletin.gwu.edu/business/dual-mba-stem-and-applied-finance-ms/>)
- Dual Master of Business Administration (STEM) and Master of Science in the field of business analytics (<https://bulletin.gwu.edu/business/dual-mba-stem-and-business-analytics-ms/>)
- Dual Master of Business Administration (STEM) and Master of Science in the field of finance (<https://bulletin.gwu.edu/business/dual-mba-stem-and-finance-ms/>)