

# 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
<b>Required</b>		
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	

MBAD 6286	Strategic Management I
MBAD 6287	Strategic Management II

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.

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:

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	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 **		

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
<b>Required</b>		
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 *

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/>)