B.S.B.A. IN SUPPLY CHAIN ANALYTICS

Overview

Major Area of Specialization in Supply Chain Analytics (STEM)

The Department of Management offers a major area of specialization in Supply Chain Analytics for students pursuing a Bachelor of Science in Business Administration (BSBA) degree.

This undergraduate major in Supply Chain Analytics is structured to provide students with a robust understanding of modern supply chains, focusing on decision-making tradeoffs, analytical methods, and data-driven approaches to optimize supply chain operations. The curriculum is designed to equip students with essential skills for modeling complex supply chain problems and sourcing and analyzing data to drive efficiencies across business processes.

Students who pursue a major in Supply Chain Analytics will develop expertise in predictive and prescriptive analytics, enabling them to become skilled problem-solvers within intricate supply chain networks. The coursework deepens students' knowledge of how to help organizations identify opportunities for value-enhancing efficiencies, leveraging technology and data insights. Additionally, hands-on learning experiences allow students to work with real-world data, providing practical exposure to analyzing, modeling, and improving modern supply chain systems.

By integrating both theoretical knowledge and practical application, this STEM-designated major prepares graduates to meet the growing demand for professionals who can navigate and enhance today's data-intensive supply chain environments.

Curriculum Requirements

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BSBA in Supply Chain Analytics must complete the BSBA Business Core and the specific coursework for the Supply Chain Analytics major area of specialization as follows:

Code	Title	Credit Hours
General Education Requirements [1, 2]		
Written Communication Skills:		
WRS 105	First-Year Writing I	3
WRS 106	First-Year Writing II [3]	3
or ENG 106	Writing About Literature and Culture	
Quantitative Skills:		
MTH 161	Calculus I (fulfilled through the BSBA business core)	
Areas of Knowledge:		
Arts and Humanities Cognate		9
People and Society Cognate		9
STEM Cognate (9 credits) (fulfilled through the major)		
Additional Requirements		
UMX 100	The University of Miami Experience	0
Electives		12
BSBA Business Core Requirements [1]		
ACC 211	Principles of Financial Accounting	3
or ACC 221	Accelerated Principles of Financial Accounting	
ACC 212	Managerial Accounting	3
or ACC 222	Accelerated Managerial Accounting	
BSL 212	Introduction to Business Law and Ethics	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BTE 320	Python Programming: Fundamentals and Algorithms	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business [3]	3
ECO 211	Principles of Microeconomics	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics (minimum grade of C- required)	3
MAS 312	Statistical Methods and Quality Control	3

MTH 161	Calculus I (minimum grade of C- required; fulfills Quantitative Skills Requirement)	4
MTH 162	Calculus II	4
MGT 100	Managing for Success in the Global Environment	3
MGT 199	Professional Development and Success in the Workplace (or other approved Miami Herbert Business School career course)	1
or BUS 211	Professional Development for Finance and Accounting	
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (taken in the final semester)	3
MKT 201	Foundations of Marketing	3
or MKT 301	Marketing Foundations	
Quantitative Choice - Select one of these suggested courses approved by the Vice Dean for Undergraduate Business Education - check pre-requisites:		3
BTE 324	Object-Oriented Programming	
BTE 423	Database Management Systems [6]	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics and Applications	
MAS 342	Introduction to Optimization and Decision Making [7]	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems [6]	
MGT 445	Supply Chain Modeling and Analysis [7]	
MGT 446	Supply Chain Strategy [7]	
Major Area of Specialization in Supply Chain Analytics [4, 5, 8]		
MGT 303	Operations Management (taken as part of the Business Core)	
MAS 342	Introduction to Optimization and Decision Making	3
MGT 445	Supply Chain Modeling and Analysis	3
MGT 446	Supply Chain Strategy	3
MGT 448	Global Sourcing	3
MGT 451	Supply Chain Analytics Practicum	3
Major Choice Courses - Select two courses (6 credit hours) from the following: [4, 8]		6
BTE 423	Database Management Systems (pre-requisite BTE 320)	
BTE 471	AI Programming for Business Management	
ISE 465	Inventory and Supply Chain Management	
ISE 568	Facilities Planning and Logistics	
MAS 332	Data Acquisition, Preparation and Visualization	
MAS 432	Data Analysis	
MAS 547	Computer Simulation Systems	
or ISE 547	Simulation Modeling and Systems Analysis	
MAS 548	Machine Learning for Analytics	
MGT 499	Special Topics in Management (Topics related to Supply Chain Analytics)	
MKT 302	Marketing Research and Market Analysis	
MKT 369	Marketing Analytics	
Total Credit Hours		**120**

1 **NOTE**: WRS 105 and WRS 106 or ENG 106, or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. MTH 161 or its equivalent must be completed **prior to** the 5th semester of coursework. All courses must be taken within the current prerequisite structure.

2 At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the Vice Dean for Undergraduate Business Education.

3 Students who do not earn at least a C- in WRS 106 or ENG 106 must either repeat WRS 106 or ENG 106 and earn at least a C- or complete WRS 230 with at least a C- before enrolling in BUS 300.

[4] All specific coursework for the major area of specialization in Supply Chain Analytics must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all specific coursework taken in the major area of specialization.
[5] Students intending to select the major must meet a minimum average 3.6 GPA in the following courses: MTH 161 (Precalculus), MAS 311 (Applied Probability and Statistics), and MAS 312 (Statistical Methods and Quality Control).
[6] may not double count as both the Quantitative Choice and a Major Choice unless Supply Chain Analytics is an additional major
[7] may not double count as both the Quantitative Choice and the major requirement unless Supply Chain Analytics is an additional major
[8] No course may double count in any other major, minor, or cognate.

Sample Plan of Study

This Sample Plan of Study represents one possible version of a new first year business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into Writing Studies and Mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the University's general education requirements. This means that it is possible to pursue two majors, or a major and a minor, within the Miami Herbert Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge is Arts and Humanities, which must be completed through a major, minor, or cognate outside the Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Freshman Year		
Fall		**Credit Hours**
ECO 211	Principles of Microeconomics	3
MGT 100	Managing for Success in the Global Environment	3
MKT 201	Foundations of Marketing	3
MTH 161	Calculus I	4
WRS 105	First-Year Writing I	3
UMX 100	The University of Miami Experience	0
	Credit Hours	**16**
Spring		
BUS 150	Business Analytics	3
ECO 212	Principles of Macroeconomics	3
MTH 162	Calculus II	4
WRS 106 or ENG 106	First-Year Writing II or Writing About Literature and Culture	3
Arts and Humanities Cognate Course		3
	Credit Hours	**16**
Sophomore Year		
Fall		
ACC 211	Principles of Financial Accounting	3
BSL 212	Introduction to Business Law and Ethics	3
BTE 210	Fundamentals of Business Technology and Innovation	3
MAS 311	Applied Probability and Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	**15**
Spring		
ACC 212	Managerial Accounting	3
BUS 300	Critical Thinking and Persuasion for Business	3
FIN 302	Fundamentals of Finance	3
MAS 312	Statistical Methods and Quality Control	3
MGT 199	Professional Development and Success in the Workplace	1
MGT 303	Operations Management	3
	Credit Hours	**16**

Junior Year		
Fall		
BTE 320	Python Programming: Fundamentals and Algorithms	3
MAS 342	Introduction to Optimization and Decision Making	3
MGT 304	Organizational Behavior	3
MGT 445	Supply Chain Modeling and Analysis	3
Arts and Humanities Cognate Course		3
	Credit Hours	**15**
Spring		
MGT 446	Supply Chain Strategy	3
MGT 448	Global Sourcing	3
People and Society Cognate Course		3
Elective		3
Elective		3
	Credit Hours	**15**
Senior Year		
Fall		
People and Society Cognate Course		3
Quantitative Choice Course		3
Supply Chain Analytics Major Choice Course		3
Elective		3
Elective		3
	Credit Hours	**15**
Spring		
MGT 401	Strategic Management	3
MGT 451	Supply Chain Analytics Practicum	3
People and Society Cognate Course		3
Supply Chain Analytics Major Choice Course		3
	Credit Hours	**12**
	Total Credit Hours	**120**

Mission

- The mission of the Supply Chain Analytics program is to develop innovative ideas and principled leaders who will transform global business and society through data-driven, ethical, and impactful decision-making.

Goals

This STEM-designated program empowers students with the analytical, technical, and strategic capabilities needed to navigate and optimize complex, interconnected global supply chains, contributing to both business and societal advancement.

The BSBA in Supply Chain Analytics is designed to:

1. **Develop Analytical and Technical Proficiency**
   Equip students with the knowledge and skills necessary to analyze complex supply chain systems, utilizing predictive and prescriptive analytics, quantitative modeling, and data visualization to optimize performance and efficiency.
2. **Enhance Strategic Decision-Making Abilities**
   Prepare students to make strategic decisions that balance cost, efficiency, and sustainability in diverse supply chain environments. This includes understanding trade-offs and the ability to apply analytical insights to solve complex business challenges.
3. **Encourage Practical, Real-World Problem Solving**
   Provide hands-on, experiential learning opportunities through projects, case studies, and partnerships with industry, ensuring students can apply theoretical knowledge to real-world supply chain issues.

Student Learning Outcomes

- BBA/BSBA graduates will be critical thinkers, able to select and apply appropriate models, tools, and techniques, and frameworks to enable them to render analytically sound business decisions.

- BBA/BSBA graduates will be able to identify, analyze and resolve ethical issues in business scenarios.
- BBA/BSBA graduates will demonstrate professional written communication skills.
- BSBA graduates will have strong technical skills.
- Upon successful completion of the program, students will be able to:

1. **Apply Supply Chain and Operations Theories**
   Students will demonstrate an understanding of key supply chain and operations management theories and apply them to real-world business contexts.
2. **Source, Analyze, and Interpret Supply Chain Data**
   Students will be able to source, clean, analyze, and interpret supply chain data using industry-standard tools, and communicate their findings effectively to both technical and non-technical audiences.
3. **Model and Optimize Supply Chain Processes**
   Students will demonstrate proficiency in building models to represent supply chain decision problems and applying optimization techniques to create effective solutions.
4. **Identify and Address Supply Chain Challenges**
   Students will be able to identify critical issues in supply chain and operations management, such as demand forecasting, risk management, and sustainability, and formulate data-driven solutions.
5. **Utilize Quantitative and Analytical Tools Proficiently**
   Students will be able to use analytical tools such as Python, R, SQL, and data visualization software to solve complex supply chain problems and support decision-making.