Supply Chain Management Science, B.S.

Degree Offered

- Bachelor of Science

Nature of the Program

Management Science is an interdisciplinary study of applying scientific approaches to solving complex management problems. It is highly specialized field of analytics. The Supply Chain Management Science program will prepare students in the application of management science and data science techniques to managing the integrated end-to-end perspective of supply chain systems. Students will receive a grounding in operations research, operations analyses using applied mathematical modeling such as optimization and stochastic modeling applied to all stages of the supply chain management including, sourcing, production, distribution and reverse logistics. Complementing these skills students will be given a strong grounding in data science techniques such as data warehousing, data mining data base management and data visualization to enhance data insights and facilitate improved decision making. This is a STEM designated major. Career opportunities include:

- Business Analyst
- Forecast Engineer
- Logistics Engineer
- Management Scientist
- Operations Analyst
- Operations Management Consultant
- Operations Research Analyst
- Operations Researcher
- Research Analyst
- Supply Chain Control Analyst
- Supply Chain Data Analyst
- Supply Chain Intelligence Business Analyst
- Supply Chain Management Consultant
- Supply Chain Systems Analyst
- Transportation Analyst

Admissions for 2026-2027

For specific information regarding the admissions requirements for First Time Freshmen to the John Chambers College of Business and Economics, please visit Chambers admissions **(**http://catalog.wvu.edu/undergraduate/collegeofbusinessandeconomics/#admissionstext**).**

Students who are direct admitted to the major as first-time freshmen must possess an overall university GPA of at least 2.5 and have completed the course prerequisites listed in the table below with minimum grade of C-, unless otherwise noted, to be eligible to enroll in upper-division course work.

Students who are not direct admitted to the major (i.e. Business) will declare the major during the semester in which they satisfy the course prerequisites listed below. Applicants also must possess an overall GPA of at least 2.5 to be considered for admission to the major.

Code	Title	Hours
ACCT 201	Principles of Accounting 1	3
BCOR 121	Introduction to Business Applications	2
ECON 201	Principles of Microeconomics	3
ECON 202	Principles of Macroeconomics	3
ENGL 101	Introduction to Composition and Rhetoric	3
ENGL 102	Composition, Rhetoric, and Research	3
MATH 155	Calculus 1	4
STAT 215	Introduction to Probability and Statistics	3
Total Hours		24

Major Code: 2172

General Education Foundations

Please use this link to view a list of courses that meet each GEF requirement. **(**http://registrar.wvu.edu/gef/**)**

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

Code	Title	Hours
General Education Foundations		
F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research	
or ENGL 103	Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Reasoning		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Code	Title	Hours
University Requirements		24
Program Requirements		24
Math and Data Requirements		18
Business Core Requirements		24
Supply Chain Management Science Major Requirements		30
Total Hours		120

University Requirements

Code	Title	Hours
General Education Foundations (GEF) 1, 2, 3, 4, 5, 6, 7, and 8 (31-37 Credits)		
Outstanding GEF Requirements 2, 5, 6, and 7		13
BCOR 191	First-Year Seminar	1
General Electives		10
Total Hours		24

Program Requirements

Code	Title	Hours
ACCT 201	Principles of Accounting 1 (Minimum grade of C-)	3
BCOR 121	Introduction to Business Applications (Minimum grade of C-)	2
ECON 201	Principles of Microeconomics (Minimum grade of C-; GEF 4)	3
ECON 202	Principles of Macroeconomics (Minimum grade of C-; GEF 8)	3
ENGL 101	Introduction to Composition and Rhetoric (Minimum grade of C-; GEF 1)	3
ENGL 102	Composition, Rhetoric, and Research (Minimum grade of C-; GEF 1)	3
MATH 155	Calculus 1 (Minimum grade of C-; GEF 3)	4
STAT 215	Introduction to Probability and Statistics (Minimum grade of C-; GEF 8)	3
Total Hours		24

Math and Data Requirements

Code	Title	Hours
MATH 156	Calculus 2 (Minimum grade of C-; GEF 8)	4
CS 110 & 110L	Introduction to Computer Science and Introduction to Computer Science Laboratory	4
CS 111 & 111L	Introduction to Data Structures and Introduction to Data Structures Laboratory	4
MIST 351	Database Management Systems	3
BUDA 450	Business Data Mining and Visualization	3
Total Hours		18

Business Core Requirements

Code	Title	Hours
BCOR 199	Introduction to Business	3
BCOR 299	Business Communication	3
BCOR 330	Information Systems and Technology (Minimum grade of C-)	3
BCOR 340	Principles of Finance (Minimum grade of B-)	3
BCOR 360	Supply Chain Management (Minimum grade of C-)	3
ECON 301	Intermediate Micro-Economic Theory	3
ECON 425	Introductory Econometrics	3
FIN 305	Intermediate Finance	3
Total Hours		24

Supply Chain Management Science Major Requirements

Code	Title	Hours
GSCM 350	Sourcing and Supply Management (Minimum grade of C-)	3
GSCM 355	Logistics and Distribution Management (Minimum grade of C-)	3
GSCM 360	Supply Chain Analytics (Minimum grade of C-)	3
GSCM 370	Transportation Management (Minimum grade of C-)	3
GSCM 425	Supply Chain Network Design (Minimum grade of C-)	3
GSCM 430	Supply Chain Technology	3
GSCM 450	Supply Chain Quality Management (Minimum grade of C-)	3
GSCM 455	Project Management	3
GSCM 470	Global Supply Chain Systems	3
BUDA 451	Advanced Business Data Mining	3
Total Hours		30

Suggested Plan of Study

First Year

Fall	Hours	Spring	Hours
BCOR 121	2	ECON 201 (GEF 4)	3
BCOR 191	1	ENGL 101 (GEF 1)	3
BCOR 199	3	MATH 156 (GEF 8)	4
ACCT 201	3	CS 110	3
MATH 155 (GEF 3)	4	CS 110L	1
GEF 2, 5, 6, or 7	3		
	16		14

Second Year

Fall	Hours	Spring	Hours
ECON 202 (GEF 8)	3	BCOR 299	3
ENGL 102 (GEF 1)	3	BCOR 330	3

STAT 215 (GEF 8)	3	BCOR 340	3
CS 111	3	BCOR 360	3
CS 111L	1	ECON 301	3
General Elective	2		
	15		15

Third Year

Fall	Hours	Spring	Hours
FIN 305	3	ECON 425	3
GSCM 350	3	GSCM 360	3
GSCM 355	3	GSCM 370	3
GEF 2, 5, 6, or 7	3	MIST 351	3
General Elective	3	General Elective	3
	15		15

Fourth Year

Fall	Hours	Spring	Hours
BUDA 450	3	GSCM 455	3
GSCM 425	3	GSCM 470	3
GSCM 430	3	BUDA 451	3
GSCM 450	3	GEF 2, 5, 6, or 7	3
GEF 2, 5, 6, or 7	3	General Elective	3
	15		15

Total credit hours: 120

Major Learning Outcomes

SUPPLY CHAIN MANAGEMENT SCIENCE

- Students use data warehousing, data mining and data visualization techniques to compile, manipulate and present insights from data to inform supply chain management decision making.
- Students employ statistical modeling tools to forecast supply chain activities such as customer demand and asset utilization for supply chain planning.
- Students apply optimization theory and operations research techniques to model and find the best feasible solutions to improve supply chain processes spanning procurement, operations, demand and returns management.
- Students apply operations analysis to the improvement of systems in supply chain processes.
- Students design, test and evaluate stochastic and dynamic models of prototypical supply chain systems.
- Students use coding platforms including R and Python to program statistical, mathematical and simulation models of supply chain systems.