

# BUSINESS, BACHELOR OF SCIENCE (B.S.) WITH A CONCENTRATION IN SUPPLY CHAIN MANAGEMENT AND ANALYTICS

The concentration in supply chain management and analytics gives students the skills to manage the manufacture and movement of products in the global environment and to understand the fundamentals of decision analytics. The curriculum is comprehensive in that supply chain management and analytics involve a range of issues from inventory management to risk management, as well as the indispensable role of information and technology in coordinating modern supply chains and analyzing data for the benefit of the organization.

## Learning goals

Graduates will employ knowledge of supply chain management and effectively utilize analytics tools to provide insight and solutions to complex business issues.

## Student learning outcomes

Upon completing this program, students will know and know how to do the following:

1. Demonstrate an understanding of the complexities of global supply chains
2. Demonstrate appropriate strategies to assess and manage uncertainty and risk
3. Identify environmental and social concerns in making supply chain management solutions
4. Employ analytics tools to support decision-making

## Special requirements

The admission requirements for the School of Business (<http://bulletin.vcu.edu/undergraduate/business/undergraduate-information/academic-policies/>) detail the deadlines and other requirements for students to be admitted to one of these major programs of study. The following courses must be completed before the student may declare a specific business major: ACCT 203, ACCT 204, BUSN 201 or BUSN 205, BUSN 212 or MATH 200, BUSN 225, ECON 210, ECON 211, UNIV 111, UNIV 112 and UNIV 200.

The School of Business has special academic policies (<http://bulletin.vcu.edu/undergraduate/business/undergraduate-information/academic-policies/>), including policies on transfer credits, that apply to all undergraduate degrees.

All baccalaureate degree programs in the School of Business require successful completion of the business knowledge exam as administered in BUSN 499.

Students may need to take additional mathematics courses as prerequisites to BUSN 212 or MATH 200. These credits will count as open electives in the degree program.

No more than six credits from the BUSN 16X Digital Literacy courses may be applied to the degree.

INTL 493 may not be counted toward a business degree.

Credit for SPCH 121 or SPCH 321 will substitute for BUSN 225, and no more than three credits of these courses may be applied toward a business degree. Students who earned a minimum grade of B in either ECON 203 or ECON 205 at VCU may substitute that credit for ECON 210.

The pass/fail grading policy may not be used for many course requirements. Students should check with their academic adviser before taking the pass/fail grading option.

## Degree requirements for Business, Bachelor of Science (B.S.) with a concentration in supply chain management and analytics

Course	Title	Hours
<b>General education</b> ( <a href="http://bulletin.vcu.edu/undergraduate/undergraduate-study/general-education-curriculum/">http://bulletin.vcu.edu/undergraduate/undergraduate-study/general-education-curriculum/</a> )		
Select 30 credits of general education courses in consultation with an adviser.		30
<b>Major requirements</b>		
• Major core requirements		
MGMT 319	Leadership	3
SCMA 302	Business Statistics II	3
• Concentration requirements		
SCMA 303	Business Analytics	3
SCMA 386	Global Supply Chain Management	3
• Major electives		
SCMA electives (select from list below)		12
Non-SCMA electives (select from list below)		6
<b>Ancillary requirements</b>		
• Ancillary core requirements		
ACCT 203 & ACCT 204	Introduction to Accounting I and Introduction to Accounting II	6
BUSN 225	Winning Presentations	3
BUSN 301	Career and Professional Development	1
BUSN 499	Business Knowledge Exam	0
ECON 210	Principles of Microeconomics (satisfies general education BOK for social/behavioral sciences and/or AOI for global perspectives)	3
ECON 211	Principles of Macroeconomics	3
FIRE 311	Financial Management	3
INFO 360	Business Information Systems	3
MKTG 301	Marketing Principles	3
MGMT 303	Creativity and Ideation	3
MGMT 310	Managing People in Organizations	3
MGMT 434	Strategic Management	3
SCMA 301	Business Statistics I	3
SCMA 320	Production/Operations Management	3
• Additional ancillary requirements		
BUSN 201	Foundations of Business <sup>1</sup>	3

or BUSN 205	Introduction to the World of Business	
BUSN 212	Business Problem Solving and Analysis (either satisfies general education quantitative foundations)	4
or MATH 200	Calculus with Analytic Geometry I	
BUSN 323	Legal Environment of Business	3
or FIRE 325	Real Estate Law	
or FIRE 459	Insurance Law	
<b>Open electives</b>		
Select any course. <sup>2</sup>		16
<b>Total Hours</b>		<b>120</b>

1

BUSN 205 satisfies general education AOI for global perspectives.

2

Students may choose electives to reach the minimum total of 120 credits.

The minimum number of credit hours required for this degree is 120.

### Approved electives

Course	Title	Hours
Select four of the following SCMA courses:		
SCMA 339	Quantitative Solutions for Supply Chain Management	3
SCMA 410	Logistics and Distribution Strategy	3
SCMA 420	Strategic Sourcing	3
SCMA 430	Data Management and Visualization	3
SCMA 439	Process Management and Quality Control	3
SCMA 440	Data Mining and Forecasting	3
SCMA 491	Topics in Supply Chain Management and Analytics	1-3
SCMA 492	Independent Study in Supply Chain Management and Analytics	1-3
SCMA 493	Internship in Supply Chain Management and Analytics	3
Select two of the following non-SCMA courses:		
BUSN 400 & BUSN 401	Principles of Consulting and International Consulting Practicum (If this option is chosen, both must be taken.)	6
ECON 303	Managerial Economics	3
INFO 361	Systems Analysis and Design	3
MGMT 389	Managerial Skills Development	3
MKTG 325	Business-to-business Marketing	3
MKTG 450	Product Development and Management	3

What follows is a sample plan that meets the prescribed requirements within a four-year course of study at VCU. Please contact your adviser before beginning course work toward a degree.

<b>Freshman year</b>		<b>Hours</b>
<b>Fall semester</b>		
UNIV 111	Focused Inquiry I (satisfies general education UNIV foundations)	3
Play course	video for Focused Inquiry I	
General education course		3
General education course		3
General education course		3
Open elective (prerequisite to BUSN 212 suggested)		3
<b>Term Hours:</b>		<b>15</b>

<b>Spring semester</b>		
BUSN 212	Business Problem Solving and Analysis (satisfies general education quantitative foundations)	4
BUSN 225	Winning Presentations	3
UNIV 112	Focused Inquiry II (satisfies general education UNIV foundations)	3
Play course	video for Focused Inquiry II	
General education course		3
Open elective		3
<b>Term Hours:</b>		<b>16</b>

<b>Sophomore year</b>		
<b>Fall semester</b>		
ACCT 203	Introduction to Accounting I	3
BUSN 201	Foundations of Business	3
or	or Introduction to the World of Business	
BUSN 205		
ECON 210	Principles of Microeconomics (satisfies general education BOK for social/behavioral sciences and/or AOI for global perspectives)	3
UNIV 200	Advanced Focused Inquiry: Literacies, Research and Communication (satisfies general education UNIV foundations)	3
General education course		3
<b>Term Hours:</b>		<b>15</b>

<b>Spring semester</b>		
ACCT 204	Introduction to Accounting II	3
BUSN 301	Career and Professional Development	1
ECON 211	Principles of Macroeconomics	3
MKTG 301	Marketing Principles	3
SCMA 301	Business Statistics I	3
Open elective		3
<b>Term Hours:</b>		<b>16</b>

<b>Junior year</b>		
<b>Fall semester</b>		
BUSN 323	Legal Environment of Business	3
or	or Real Estate Law	
FIRE 325	or Insurance Law	
or		
FIRE 459		

BUSN 325	Organizational Communication	3
MGMT 310	Managing People in Organizations	3
SCMA 302	Business Statistics II	3
SCMA 320	Production/Operations Management	3

**Term Hours:** 15

#### Spring semester

INFO 360	Business Information Systems	3
MGMT 303	Creativity and Ideation	3
MGMT 319	Leadership	3
SCMA 303	Business Analytics	3
SCMA 386	Global Supply Chain Management	3

**Term Hours:** 15

#### Senior year

##### Fall semester

FIRE 311	Financial Management	3
SCMA electives		6
Non-SCMA elective		3
Open elective		3

**Term Hours:** 15

##### Spring semester

BUSN 499	Business Knowledge Exam	0
MGMT 434	Strategic Management	3
SCMA electives		6
Non-SCMA elective		3
Open elective		1

**Term Hours:** 13

**Total Hours:** 120

The minimum number of credit hours required for this degree is 120.

## Accelerated B.S. and M.D.A.

The accelerated B.S. and M.D.A. program allows qualified students to earn both the B.S. in Business with a concentration in supply chain management and analytics and Master of Decision Analytics in a minimum of five years by completing approved graduate courses during the senior year of their undergraduate program. Students in the program may count up to 12 credit hours of graduate courses toward both the B.S. and M.D.A. degrees. Thus, the two degrees may be earned with a minimum of 138 credits rather than the 150 credits necessary if the two degrees are pursued separately.

This accelerated program is for highly-motivated students who want to pursue advanced study in decision analytics. Students holding these degrees will be prepared to contribute to analytical decision making that supports the mission of a variety of organizations.

## Entrance to the accelerated program

Interested undergraduate students should consult with their adviser as early as possible to receive specific information about the accelerated program, determine academic eligibility and submit (no later than two semesters prior to graduating with a baccalaureate degree, that is, before the end of the spring semester of their junior year) an Accelerated Program Declaration Form to be approved by the graduate program director. Limited spaces may be available in the accelerated program. Academically qualified students may not receive approval if capacity has been reached.

Minimum qualifications for entrance to this accelerated program include completion of 85 undergraduate credit hours including SCMA 212 or MATH 200, SCMA 301, and SCMA 302 with a minimum grade of B and an overall GPA of 3.25. Students who received transfer credit for these courses shall submit transcripts from previous institutions with their application so that performance in these classes can be evaluated.

Once enrolled in the accelerated program, students must meet the standards of performance applicable to graduate students as described in the "Satisfactory academic progress (<http://bulletin.vcu.edu/academic-regs/grad/satisfactory-academic-progress/>)" section of the Graduate Bulletin, including maintaining a 3.0 GPA. Guidance to students admitted to the accelerated program is provided by both the undergraduate adviser and the faculty adviser to the graduate program.

## Admission to the graduate program

Entrance to the accelerated program enables the student to take the approved shared courses that will apply to the undergraduate and graduate degrees. However, entry into an accelerated program via an approved Accelerated Program Declaration Form does not constitute application or admission into the graduate program. Admission to the graduate program requires a separate step that occurs through a formal application to the master's program, which is submitted through Graduate Admissions no later than a semester prior to graduation with the baccalaureate degree, that is, before the end of the fall semester of the senior year. In order to continue pursuing the master's degree after the baccalaureate degree is conferred, accelerated students must follow the admission to graduate study requirements outlined in the VCU Bulletin.

## Degree requirements

The Bachelor of Science in Business degree with a concentration in supply chain management and analytics will be awarded upon completion of a minimum of 120 credits and the satisfactory completion of all undergraduate degree requirements as stated in the undergraduate Bulletin.

A maximum of 12 graduate credits may be taken prior to completion of the baccalaureate degree. These graduate credits will substitute for the required major or open elective credits for the undergraduate degree. These courses are shared credits with the graduate program, meaning that they will be applied to both undergraduate and graduate degree requirements.

The graduate decision analytics courses that may be taken as an undergraduate, once a student is admitted to the program, are:

Course	Title	Hours
INFO 645	Prescriptive Analytics	3
INFO 648	Business Data Analytics	3
SCMA 632	Statistical Analysis and Modeling	3
SCMA 642	Decision and Risk Analytics	3

## Recommended course sequence/plan of study

What follows is the recommended plan of study for students interested in the accelerated program beginning in the fall of the junior year prior to admission to the accelerated program in the senior year.

Course	Title	Hours
<b>Junior year</b>		
Fall semester		
BUSN 323	Legal Environment of Business	3
or FIRE 325	Real Estate Law	
or FIRE 459	Insurance Law	
BUSN 325	Organizational Communication	3
MGMT 310	Managing People in Organizations	3
SCMA 302	Business Statistics II	3
SCMA 320	Production/Operations Management	3
Term Hours:		15
Spring semester		
INFO 360	Business Information Systems	3
MGMT 303	Creativity and Ideation	3
MGMT 319	Leadership	3
SCMA 303	Business Analytics	3
SCMA 386	Global Supply Chain Management	3
Term Hours:		15
<b>Senior year</b>		
Fall semester		
FIRE 311	Financial Management	3
INFO 648	Business Data Analytics	3
SCMA 632	Statistical Analysis and Modeling	3
SCMA elective		3
Open elective		3
Term Hours:		15
Spring semester		
BUSN 499	Business Knowledge Exam	0
INFO 645	Prescriptive Analytics	3
MGMT 434	Strategic Management	3
SCMA 642	Decision and Risk Analytics	3
SCMA elective		3
Open elective		3
Term Hours:		15
<b>Fifth year</b>		
Fall semester		
INFO 601	Database Management	3
Graduate program electives		6
Term Hours:		9
Spring semester		
Graduate program electives		9
Term Hours:		9

## Accelerated B.S. and M.S.C.M.

The accelerated B.S. and M.S.C.M. program allows qualified students to earn both the B.S. in Business with a concentration in supply chain management and analytics and Master of Supply Chain Management in a minimum of five years by completing approved graduate courses during the senior year of their undergraduate program. Students in the program may count up to 12 hours of graduate courses toward both the B.S. and M.S.C.M. degrees. Thus, the two degrees may be earned with a minimum of 138 credits rather than the 150 credits necessary if the two degrees are pursued separately.

Students holding these degrees are prepared for corporate and government supply chain management positions using data analytics, leadership skills and global perspectives.

## Entrance to the accelerated program

Interested undergraduate students should consult with their adviser as early as possible to receive specific information about the accelerated program, determine academic eligibility and submit (no later than two semesters prior to graduating with a baccalaureate degree, that is, before the end of the spring semester of their junior year) an Accelerated Program Declaration Form to be approved by the graduate program director. Limited spaces may be available in the accelerated program. Academically qualified students may not receive approval if capacity has been reached.

Minimum qualifications for entrance to this accelerated program include completion of 85 undergraduate credit hours including SCMA 212 or MATH 200, SCMA 301, and SCMA 302 with a minimum grade of B and an overall GPA of 3.25. Students who do not meet the minimum GPA requirements may submit GRE scores to receive further consideration.

Once enrolled in the accelerated program, students must meet the standards of performance applicable to graduate students as described in the "Satisfactory academic progress (<http://bulletin.vcu.edu/academic-regs/grad/satisfactory-academic-progress/>)" section of the Graduate Bulletin, including maintaining a 3.0 GPA. Guidance to students admitted to the accelerated program is provided by both the undergraduate adviser and the faculty adviser to the graduate program.

## Admission to the graduate program

Entrance to the accelerated program enables the student to take the approved shared courses that will apply to the undergraduate and graduate degrees. However, entry into an accelerated program via an approved Accelerated Program Declaration Form does not constitute application or admission into the graduate program. Admission to the graduate program requires a separate step that occurs through a formal application to the master's program, which is submitted through Graduate Admissions no later than a semester prior to graduation with the baccalaureate degree, that is, before the end of the fall semester of the senior year. In order to continue pursuing the master's degree after the baccalaureate degree is conferred, accelerated students must follow the admission to graduate study requirements outlined in the VCU Bulletin.

## Degree requirements

The Bachelor of Science in Business degree with a concentration in supply chain management and analytics will be awarded upon completion of a minimum of 120 credits and the satisfactory completion of all undergraduate degree requirements as stated in the Undergraduate Bulletin.

A maximum of 12 graduate credits may be taken prior to completion of the baccalaureate degree. These graduate credits will substitute for the required major or open electives for the undergraduate degree. These courses are shared credits with the graduate program, meaning that they will be applied to both undergraduate and graduate degree requirements.

The graduate courses for the M.S.C.M. that may be taken as an undergraduate, once a student is admitted to the program, are:

Course	Title	Hours	MSCM program electives	
SCMA 602	Global Supply Chain Management	3		6
SCMA 675	Operations Management	3		
MSCM program electives		6		
			Term Hours:	12

## Recommended course sequence/plan of study

What follows is the recommended plan of study for students interested in the accelerated program beginning in the fall of the junior year prior to admission to the accelerated program in the senior year.

Course	Title	Hours
<b>Junior year</b>		
Fall semester		
BUSN 323	Legal Environment of Business	3
or FIRE 325	Real Estate Law	
or FIRE 459	Insurance Law	
BUSN 325	Organizational Communication	3
MGMT 310	Managing People in Organizations	3
SCMA 302	Business Statistics II	3
SCMA 320	Production/Operations Management	3
Term Hours:		15
Spring semester		
INFO 360	Business Information Systems	3
MGMT 303	Creativity and Ideation	3
MGMT 319	Leadership	3
SCMA 303	Business Analytics	3
SCMA 386	Global Supply Chain Management	3
Term Hours:		15
<b>Senior year</b>		
Fall semester		
FIRE 311	Financial Management	3
SCMA 675	Operations Management	3
SCMA electives		6
MSCM program elective		3
Term Hours:		15
Spring semester		
BUSN 499	Business Knowledge Exam	0
MGMT 434	Strategic Management	3
SCMA 602	Global Supply Chain Management	3
SCMA elective		3
MSCM program elective		3
Open elective		2
Term Hours:		14
Summer semester		
SCMA 603	SAP ERP and Supply Chain Management	3
SCMA 606	Supply Chain Innovation	3
Term Hours:		6
<b>Fifth year</b>		
Fall semester		
SCMA 645	Advanced Decision Analytics	3
SCMA 697	Guided Study in Supply Chain Management	3