

# SUPPLY CHAIN MANAGEMENT

Supply chain management is an integrated program of study concerned with the efficient flow of information, materials, and products within and among organizations. Supply chain management involves the integration of business processes across organizations, from material sources and suppliers through manufacturing, and processing to the final customer. The program's balanced approach includes courses in the three core areas of supply chain management: procurement, operations, and logistics. Students will develop knowledge related to a wide variety of supply chain activities, including demand planning, purchasing, transportation management, warehouse management, inventory control, material handling, product and service support, information technology, and strategic supply chain management.

## Undergraduate Major in Supply Chain Management

**For undergraduate curriculum in business, major in supply chain management.**

The Department of Supply Chain Management offers a major in supply chain management. Students will complete the general education requirements (including business foundation courses), business core requirements for the bachelor of science (B.S.) degree, and 18 additional credits in the major.

The instructional objective of the supply chain management major is to prepare students for professional careers in logistics analysis, plant management, procurement, warehouse management, sustainable supply chain management, and consulting. The curriculum provides the required theoretical and conceptual base and analytical methods for making sound operational and strategic business decisions related to all activities in a supply chain.

For more information on the undergraduate major in Supply Chain Management, please visit: <https://ivybusiness.iastate.edu/degree/supply-chain-management/>

## Student Learning Outcomes

Upon graduation, undergraduate students majoring in Supply Chain Management will:

1. Be effective communicators
2. Be effective collaborators
3. Be problem solvers
4. Understand business concepts
5. Recognize ethical and legal responsibilities to organizations

### Curriculum:

In addition to the basic business degree requirements (<https://catalog.iastate.edu/collegeofbusiness/#curriculuminbusinessstext>),

Supply Chain Management majors must also complete:

Required Courses (15 credits):

SCM 424	Process Management, Analysis, and Improvement	3
SCM 453	Supply Chain Planning and Control	3
SCM 460	Decision Tools for Logistics and Operations Management	3
SCM 461	Principles of Transportation	3
SCM 486	Principles of Purchasing and Supply Management	3

Elective Courses (3 credits):

Select one elective from the following list:

SCM 340	Project Management	3
SCM 428	Special Topics in Operations Management *	3
SCM 430	Supply Chain Analytics *	3
SCM 434X	Implementing Process Improvement *	3
SCM 440	Supply Chain Information Systems	3
SCM 450	Enterprise Resource Planning Systems in Supply Chain	3
SCM 462	Transportation Carrier Management *	3
SCM 466	Global Trade Management	3
SCM 471	Sustainable Supply Chain Management *	3
SCM 473X	War and Peace and Supply Chains	3
SCM 491	International Live Case and Study Tour	3
SCM 492X	Supply Chain Management Live Case *	3
SCM 495	Executive Analysis and Presentations #	3

\* Courses not offered on a regular basis. Students should consult with their academic advisor about terms of offering.

# Only 3 credits of SCM 495 may count as a Supply Chain Management major choice elective.

The X designation after a course number indicates this is an experimental course offered by the Department. Although in an experimental phase, these courses are open for registration just the same as permanent courses listed in the course catalog and count as elective choices in the major.

Students are limited to three business majors/degrees/minors within the Ivy College of Business. This limit is on business majors/degrees/minors only, and does not apply to multiple majors/degrees/minors taken outside the Ivy College of Business.

Supply Chain Management, B.S.

*Sample 4-Year Plan (Your plan may differ)*

**Freshman**

Fall	Credits Spring	Credits
BUSAD 102 or 103	1 ECON 102	3
ECON 101	3 STAT 226	3
COM S 113	3 US Diversity <sup>#</sup>	3
ENGL 150	3 ACCT 284	3
MATH 150	3 SP CM 212 or 312	3
LIB 160	1 BUSAD 203	1
<b>14</b>		<b>16</b>

**Sophomore**

Fall	Credits Spring	Credits
ACCT 285	3 SCM 461	3
SCM 301	3 Core Business Course	3
MATH 151	3 ACCT 215	3
ENGL 250	3 PHIL 230	3
Natural Science	3 HUM/SOC SCI	3
<b>15</b>		<b>15</b>

**Junior**

Fall	Credits Spring	Credits
SCM 486	3 SCM 424	3
Core Business Courses	6 SCM 460	3
Global/International Perspective <sup>@</sup>	3 Core Business Course	3
HUM/SOC SCI	3 Global/International Perspective <sup>@</sup>	3
	General Elective	3
<b>15</b>		<b>15</b>

**Senior**

Fall	Credits Spring	Credits
SCM 453	3 SCM Elective	3
Core Business Courses	6 HUM/SOC SCI	3
ENGL 302	3 MGMT 478 <sup>*</sup>	3
General Elective	5 General Electives	6
<b>17</b>		<b>15</b>

**Total Credits: 122**

<sup>@</sup> Courses in these requirements may also be used as Global Perspective.

<sup>#</sup> US Diversity courses may be used to satisfy HUM/SOC SCI.

<sup>\*</sup> Requires completion of all core courses except MGMT 372 plus senior standing.

Students must be admitted to the professional program in business to major in supply chain management. The requirements to enter the professional program are:

1. Completion of at least 30 credits, Foundation Courses, ENGL 150, and all ENGL 101/99 courses if required.

2. A minimum GPA of 2.50 either cumulative or in the Foundation Courses. Early admission is allowed for Honors-eligible students. (See your advisor for specific information)

Graduation Requirements:

1. Grade of "C" or higher in at least 30 credits of Core and Major courses.

2. 42 credits of 300+ level courses from a four-year institution.

3. 50% of required Business courses must be earned at ISU.

4. At least 32 credits and the LAST 32 credits must be earned at ISU (exceptions for study abroad and internship may be requested).

5. 122 Credits minimum and a Cumulative GPA of at least 2.00 with no quality point deficiencies.

6. A grade of C or better in ENGL 250 required, and also in one other required ENGL course.

7. All 300-level and higher business credits must be earned at a four-year college.

8. Multiple business **majors** must have at least 15 distinct credits in each of the major requirements; when applicable, one course can be shared between business majors; see your advisor regarding multiple business **degree requirements**.

**Undergraduate Minor in Supply Chain Management**

The Department of Supply Chain Management also offers a minor for non-Supply Chain Management majors in the Ivy College of Business.

The minor requires 15 credits from an approved list of courses, including at least 6 credits in courses numbered 300 or above taken at Iowa State University with a grade of C or higher. The minor must include at least 9 credits that are not used to meet any other department, college, or university requirement. Students with declared majors have priority over students with declared minors in courses with space constraints.

Required Courses (6 credits):

SCM 301	Supply Chain Management	3
SCM 486	Principles of Purchasing and Supply Management	3

Elective Courses (9 credits):

Select one elective course from:

SCM 424 Process Management, Analysis, and Improvement

SCM 450 Enterprise Resource Planning Systems in Supply Chain

SCM 453 Supply Chain Planning and Control

Select one elective course from:

SCM 460 Decision Tools for Logistics and Operations Management

SCM 461 Principles of Transportation

SCM 462 Transportation Carrier Management \*

SCM 466 Global Trade Management

SCM 473X War and Peace and Supply Chains

Select one additional elective course from either section above.

\* Courses not offered on a regular basis. Students should consult with their academic advisor about terms of offering.

Students are limited to three business majors/degrees/minors within the Ivy College of Business. This limit is on business majors/degrees/minors only, and does not apply to multiple majors/degrees/minors taken outside the Ivy College of Business.

The X designation after a course number indicates this is an experimental course offered by the Department. Although in an experimental phase, these courses are open for registration just the same as permanent courses listed in the course catalog and count as elective choices in the major.

For more information on the undergraduate minor in Supply Chain Management, please visit: <https://ivybusiness.iastate.edu/degree/zminors-and-certificates/>

## Graduate Programs

The Department of Supply Chain Management participates in the full-time and part-time Master of Business Administration (MBA) and in the PhD in Business and Technology programs. The department also participates in the interdepartmental MS in Transportation program.

### Master of Business Administration (MBA)

The MBA program is a 48-credit, non-thesis, non-creative component curriculum. Thirty of the 48 credits are core courses and the remaining 18 are graduate electives. Within the MBA program, students can obtain a specialization in Supply Chain Management.

### Student Learning Outcomes

Upon graduation, MBA students will:

1. Demonstrate effective communication skills
2. Effectively lead and work in diverse teams

3. Critically solve business problems

4. Integrate ethical and global perspectives in decision making

For more information about the MBA program with a specialization in Supply Chain Management, please visit: <https://ivybusiness.iastate.edu/mba-full-time-details/>

### Masters in Healthcare Analytics and Operations (MHAO)

Students graduating from the Masters in Healthcare Analytics and Operations program will apply data and appropriate models to analyze operations and supply chains to develop and present actionable insights leading to better outcomes in the healthcare industry. Healthcare analytics uses historical and current data to predict trends and optimize operations, bringing benefits to patients, medical professionals, and healthcare supply chain partners.

For more information about the Masters in Healthcare Analytics and Operations program, please visit: <https://www.ivybusiness.iastate.edu/degree/master-of-healthcare-analytics-and-operations/>

### Ph.D. in Business and Technology

The PhD in Business and Technology is a 56-credit curriculum (minimum) that culminates in a dissertation. Students may select Supply Chain Management (SCM) as their major area of specialization. The primary objective of the SCM specialization is to prepare students for careers in research universities. The SCM domain is broad and includes the design, development and control of business processes for the conversion of inputs into outputs and distribution of those outputs. The traditional focus of SCM was on integration of processes across multiple functions within the firm—operations management, logistics, and purchasing primarily, with elements of marketing and information systems also included. However, in today's world, with competition across supply chain networks, SCM also involves integrating business processes across firms. Research in this area is therefore interdisciplinary in nature and addresses both intra- and inter-organizational issues.

Ph.D. core curriculum	6
Doctoral seminars and research practicum in the area of specialization	14
Minor area (9 cr.) plus electives (3 cr.)	12
Research methods courses	12
Dissertation	12
<b>Total Credits</b>	<b>56</b>

### Student Learning Outcomes

Upon graduation, PhD students will be able to:

1. Understand and advance knowledge
2. Create knowledge through original research
3. Teach effectively in an institution of higher education

For more information about the PhD program with a specialization in Supply Chain Management, please visit: <https://ivybusiness.iastate.edu/phd/phd-supply-chain/>

## **Graduate Certificate**

The online graduate certificate in Supply Chain Management will provide foundational concepts and applied technical skills that supply chain professionals need to effectively manage a global supply chain.

The certificate is for working professionals as well as students enrolled in graduate programs who are employed or seeking a career as a business analyst, supply chain analyst, or who want to move into a supply chain position.

For more information about the graduate certificate in Supply Chain Management, please visit: <https://ivybusiness.iastate.edu/scm-certificate/>