MS in Management Science and Supply Chain Management

The Master of Science in management science and supply chain management (MSSCM) is an interdisciplinary program collaboratively offered by the Barton School of Business and the College of Engineering. The program targets a wide range of diverse domestic and international applicants. The supply chain curriculum is designed in a manner that students will acquire mastery in the managerial and analytics aspects of supply chain operations and develop contemporary competencies via innovative hands-on activities and industry practices.

The Master of Science in management science and supply chain management offers two tracks:

1. Management track focuses on developing capabilities and mastery leading to value creation in global management of procurement, logistics and operations.
2. Analytics track aims to build capabilities in the use of innovative tools and techniques in decision-making processes from design to planning phases.

Admission

In order to be admitted into the supply chain management master's degree program, the applicant must:

1. Possess an undergraduate degree in business, engineering, science or related field.
2. Have a minimum GPA of 3.000/4.000 cumulative or in the last 60 credit hours (whichever is better) of undergraduate coursework and in all graduate courses. Students with lower GPAs may apply with GRE or GMAT scores for consideration of probationary admission.
3. Submit personal goal statement, which clearly articulates the applicant's reason for seeking admission to the program (500 words maximum).
4. Meet the minimum TOEFL and IELTS requirements set by the Graduate School, for students with English as a second language. Applicants needing an F1 visa must also provide documentation for financial support.

The application deadline is May 1st for the fall semester and October 1st for the spring semester.

Program Requirements

Students are able to earn a Master of Science in management science and supply chain management by choosing one of the following four options:

Option	Requirements
Coursework Option	11 courses (33 credit hours) to include 18 credit hours of core courses, 9 credit hours of track courses, and 6 credit hours of elective coursework.
Certification Option	In this 30-credit hour option, students will complete 10 courses, to include 18 hours of core courses, 9 credit hours of track courses, and 3 credit hours of elective coursework. In addition, students must complete a qualified professional certification related to operations and supply chain management from ISM, ASQ, APICS or SME that is approved by the program director. This is suitable for students who want to gain or demonstrate specific professional skills or knowledge in their field, and the certification they earn acknowledges their expertise in a specialized area.
Thesis Option	In this option, students are required to complete a thesis as part of their graduate studies. The thesis is typically an extensive research project that contributes new knowledge to the field. The time and credit allocated to this endeavor replace the 6 credit hours of elective courses, meaning instead of taking additional classes, students focus on their thesis research. Students will complete nine courses (27 credit hours) to include 18 credit hours of core courses, 9 credit hours of track courses, and 6 credit hours of DS 897 – Master's Thesis.
Project Option	This is usually a less intensive alternative to the thesis and involves completing a significant project, which could be practical or research based. In this case, the project course takes up 3 credit hours, replacing one 3-credit-hour elective course. This means students will still take some elective courses but will have one of them substituted with the project. Students will complete ten courses (30 credit hours) to include 18 credit hours of core courses, 9 credit hours of track courses, and 3 credit hours of elective coursework plus 3 credit hours of DS 896 - Directed Project.

Applicants who do not have statistics background will be required to take ECON 231 Introductory Business Statistics as a prerequisite.

The degree requires 18 credit hours of core courses, 9 credit hours of track required courses, and electives (or thesis/project hours) to satisfy the degree requirements. The core courses and courses in each track are listed below.

Core Courses Required for All Tracks

Course	Title	Hours
DS 850	Operations Management	3
DS 865	Supply Chain Management	3
or IME 783	Supply Chain Management	
DS 725	Global Procurement and Outsourcing	3
DS 790	Logistics and Warehouse Analytics	3
BSAN 775	Introduction to Business Analytics	3
DS 755	Project Management	3
Total Credit Hours		**18**

Students must specialize in either the management or analytics track.

Management Track

A student specializing in the management track is required to take three track required courses and two elective courses from the management track list.

Course	Title	Hours
Required		
DS 760	ERP: Enterprise Resource Planning	3
DS 825	Lean Practices in Supply Chain Management	3
DS 870	Risk Management in Global Supply Chains	3
Electives (0-6 credit hours depending upon completion option)		
Students may select any other course not listed here with program coordinator consent		6
DS 890A-Z	Seminar in Special Topics	
DS 890S	Integrated Supply Management	
BLAW 810	Law and Ethics for Business	
FIN 625	International Financial Management	
IB 836	International Business and Competitiveness	
MGMT 885	Advanced Strategic Management	
MIS 874	Management Information Systems	
BSAN 810	Business Acumen for Technical Professionals	
Total Credit Hours		**15**

Analytics Track

A student specializing in the analytics track is required to take three track required courses and two elective courses from the analytics track list.

Course	Title	Hours
Required		
DS 883	Supply Chain Analytics	3
or IME 883	Supply Chain Analytics	
ECON/BSAN 710	Python Programming for Business	3
BSAN 734	Introduction to Data Mining and Machine Learning	3
or IME 734	Introduction to Data Mining and Analytics	
Electives (0-6 credit hours depending upon completion option)		
Students may select any other course not listed here with program coordinator consent		6
BSAN 875	Prescriptive Analytics with Python	
MIS 884	Database Planning & Management	
ECON 803	Quantitative Analysis of Business Conditions and Forecasting	
or IME 880Y	Forecasting and Analytics	
IME 724	Statistical Methods for Engineers	
IME 780AN	Big Data Analytics in Engineering	
PHS 810	Strategic Planning and Performance Analytics	
DS 890A-Z	Seminar in Special Topics	
Total Credit Hours		**15**

Students must submit a plan of study by the end of the first semester of enrollment.

Applied Learning

Students in the Master of Science in management science and supply chain management program are required to complete an applied learning or research experience to graduate from the program. The requirement can be met by completing a project, a thesis or any of the following required classes:

1. DS 850 Operations Management; or
2. DS 865 Supply Chain Management/ IME 783 Supply Chain Management; or
3. DS 725 Global Procurement and Outsourcing.