



BOARD OF REGENTS

SUMMARY OF ITEM FOR ACTION,
INFORMATION, OR DISCUSSION

TOPIC: University of Maryland, College Park: Master of Science in Supply Chain Management (MS-SCM)

COMMITTEE: Education Policy and Student Life

DATE OF COMMITTEE MEETING: March 11, 2014

SUMMARY: The Smith School currently offers an internationally competitive Master of Science in Business degree with several concentrations, one of which is a concentration in Logistics & Transportation (locally referred to as Supply Chain Management) (MSB/SCM). This proposal is to replace the MSB/SCM with a standalone degree program with the title Master of Science in Supply Chain Management (MS-SCM). No curriculum changes are anticipated, but offering a separate degree with the words “supply chain management” in the title will better articulate on the diploma the credentials of students graduating from the program and make them more competitive, particularly in international markets. The Smith School also offers a joint MSB/SCM -MBA degree and thus the university also seeks to convert this option to a joint MBA-MS-SCM program.

Within the state of Maryland, there is one other MS program in Supply Chain Management, which is at Towson University. The Towson program is designed for working professionals to take in the evenings and can be finished in two calendar years. The proposed program is offered during the day, designed for the fulltime student who can complete the program in two semesters, one academic year. Overall, the program emphasizes hands-on learning experiences using sophisticated software applications in Enterprise Resource/Supply Chain Planning, Risk Management, Warehouse Management, and Transportation Management. There is substantial use of the University’s Supply Chain Management Center’s laboratory and facilities to accomplish this. The Supply Chain Management Center, established over 15 years ago, is recognized nationally as one of the leading centers for the study of supply chain management. Nationally, peer institutions with similar programs include the University of Michigan, Michigan State University, Ohio State University, and Purdue University.

ALTERNATIVE(S): The Regents may not approve the program or may request further information.

FISCAL IMPACT: There is no fiscal impact.

CHANCELLOR’S RECOMMENDATION: That the Committee on Education Policy and Student Life recommend that the Board of Regents approve the proposal from the University of Maryland, College Park to offer the Master of Science in Supply Chain Management.

COMMITTEE RECOMMENDATION: Approval

DATE: March 11, 2014

BOARD ACTION:

DATE:

SUBMITTED BY: Joann Boughman

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UNIVERSITY SYSTEM OF MARYLAND INSTITUTION PROPOSAL FOR

- New Instructional Program
- Substantial Expansion/Major Modification
- Cooperative Degree Program
- Within Existing Resources, or
- Requiring New Resources

University of Maryland College Park

Institution Submitting Proposal

Master of Science in Supply Chain Management

Title of Proposed Program

Master of Science

Fall 2014

Award to be Offered

Projected Implementation Date

Proposed HEGIS Code

52.1399
Proposed CIP Code

Robert H. Smith School of Business

Thomas M. Corsi

Department in which program will be located

Department Contact

(301) 405-2197

Contact Phone Number

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Contact E-Mail Address



Signature of President or Designee

February 17, 2014

Date

Mission

The University of Maryland College Park mission statement includes a goal to “continue to build a strong, university-wide culture of graduate and professional education” and to provide knowledge-based programs and services that are responsive to the needs of the citizens of the state and the nation. The Robert H. Smith School of Business promotes this mission through its objective to grow future leaders to address the increasingly relevant global issues of our time. As part of this goal, the Smith School currently offers an internationally competitive Master of Science in Business degree with several concentrations, one of which is a concentration in Logistics & Transportation (locally referred to as Supply Chain Management) (MSB/SCM).¹ ***This proposal is to replace the MSB/SCM with a standalone degree program with the title Master of Science in Supply Chain Management (MS-SCM). No curriculum changes are anticipated,*** but offering a separate degree with the words “supply chain management” in the title will better articulate on the diploma the credentials of students graduating from the program and make them more competitive, particularly in international markets.

This proposal is a continuation of a larger effort to disaggregate some of the concentrations in the M.S. in Business, that started in Fall 2013 with the degree in Finance. Three other concentrations will also be proposed for conversion to standalone programs in Accounting, Information Systems, and Marketing Analytics. These will be submitted as separate proposals. Separation of the concentrations within the MS in Business will allow students to pursue more than one area of expertise for those who desire to do so. The Smith School also offers a joint MSB/SCM -MBA degree and thus we also seek to convert this option to a joint MBA-MS-SCM program.

In light of intense global competition and the need to maximize operating efficiency, employers are looking for supply chain specialists who have a thorough understanding of supply chain concepts, best practices and the ability to rigorously apply these within organizations. In particular, as international markets become more interdependent, multi-national companies and foreign countries have significant demand for students with the skill set that our current MSB/SCM program offers. Demand is anticipated to increase.

Business schools are undergoing a significant shift in the applicant pool for Master’s degree programs. Applications for traditional MBA programs that provide a general management focus have seen a sustained decline nationwide. Coincidentally, more students are seeking Master’s degrees that specialize in various business fields, including supply chain management. Several other institutions, such as Ohio State University, Arizona State University, Washington University, MIT, Penn State University and Michigan State University have similarly launched Master’s degree programs in supply chain management within the last five years. The programs offered by Penn State and Arizona State are offered online. Nationwide, many other institutions nationwide are planning to enter this market and launch their own Master of Science in Supply Chain Management programs, in traditional classroom and/or online distance learning formats.

¹ In 2009, the B.S. in Logistics, Transportation, and Supply Chain Management was renamed to a B.S. in Supply Chain Management and this name was locally adopted for the graduate concentration in Logistics & Transportation.

Student demand for is high. Applications have almost tripled in the last two years, from 113 in Fall 2013 to 290 for AY 2012-2013 applications. Admitted student statistics demonstrate the quality of the applicants, with an average GMAT score of 690 and GPA of 3.6 in the most recently admitted class.

Characteristics of the Proposed Program

UMD's MS in Business is a 30-credit program, with approximately 90 new students admitted per year into the Logistics & Transportation concentration. Approximately the same level of enrollment is expected in the MS-SCM degree program.

Applicants will apply to the University of Maryland Graduate School and must have completed all of the requirements for a baccalaureate degree prior acceptance, with particular emphasis on a sufficient mathematical background. All applicants must submit: a) transcripts from all undergraduate and graduate institutions that have been previously attended; b) Graduate Record Examination (GRE) scores or the Graduate Management Admissions Test (GMAT) scores; c) a complete online application form that includes a written essay articulating qualifications and motivation for pursuing advanced education; and d) two letters of recommendation from supervisors or from professors competent to judge the applicant's probability of success in graduate school. Another standardized test in lieu of the GRE or GMAT can be substituted at the discretion of the Academic Director.

An admissions interview may be required. After initial screening, the Admissions Office may select candidates for interviews which may be done in person or by telephone. Proof of English language proficiency (TOEFL or IELTS official scores) is also required unless the applicant has received an undergraduate or graduate degree from a select list of countries. For international students requiring an F1 visa, a completed certification of finance form and supporting financial documentation are required.

In addition to Graduate School requirements, admission decisions for the MS-SCM program will be based on the quality of previous undergraduate and graduate course work (if applicable), the strength of Graduate Record Examination scores or the Graduate Management Admissions Test scores, the relevance of prior work and research experience, and the congruence of professional goals with those of the program.

Catalog Description

The Master of Science in Supply Chain Management (MS in SCM) degree is a professional degree for students wishing to pursue or advance their careers in supply chain management. This includes transportation, purchasing, distribution, inventory management, global trade, operations management, strategy and the numerous other sub-specialties in the field of supply chain management. Core courses provide excellent fundamentals in supply chain management. They will learn how to analyze and direct the supply chain decisions of an organization, and gain a fresh understanding and a deep appreciation for the theoretical foundations of supply chain management today.

Curriculum

The Master of Science in Supply Chain Management (MS in SCM) degree is designed to be a strong managerial and analytical program that provides students with a sound, foundationally understanding of core supply chain disciplines. All students are required to gain a basic understanding of each major area of supply chain management through a core set of classes. The department has identified five career tracks and has made suggestions for how students can best prepare for these fields: Supply Chain Strategy/Consulting, Demand/Supply Planning, Purchasing/Sourcing, Distribution Methods and Practices, Materials Management Inventory Control, and Transportation.

Students will enter the MS-SCM program with a Bachelor's degree and take a total of 30 credits. Students have the ability to complete within one academic year, but many choose to stretch the program to one and one-half academic years. Such elongation provides students an opportunity to seek a summer internship. Sample student schedules and course descriptions are provided in Appendix A.

The MS-SCM program is designed to prepare students for careers in a high-tech, global economy. Much of the curriculum includes the integration of one or more STEM areas of study, particularly technology and mathematics. Supply chains are now optimized through the utilization of advanced technology, data analytics, and the utilization of quantitative methods to maximize efficiencies in inventory management, warehousing, distribution and transportation. Required skills include the design of manufacturing systems, purchasing and inventory control, production planning, materials requirements planning (MRP), distribution requirements planning, supply chain risk analysis and assessment, data modeling, six sigma, global sourcing analysis, and identifying cost efficiencies. For these reasons, we suggest the STEM-certified CIP 2010 code of 52.1399, Management Sciences and Quantitative Methods (other), for this degree program.

Expected Learning Outcomes

The Master of Science in Supply Chain Management will provide students with:

- a) General knowledge of foundational supply chain concepts, disciplines, and best practices in the field of supply chain management;
- b) An understanding of global supply chains and their importance to the multi-national firm;
- c) Foundational knowledge of supply chain risk and resilience;
- d) A clear understanding of import/export management and international trade logistics;
- e) Foundational understanding of Enterprise Resource Planning (ERP);
- f) A knowledge of best practices in in the areas of purchasing and inventory control, including production planning, materials requirements planning (MRP), distribution requirements planning;
- g) A managerial approach to the formulation of an effective supply chain strategy;

- h) Training on negotiation skills to help supply chain managers improve the effectiveness and efficiencies of their supply chains.

A description of how the program outcomes will be organized and assessed is included as Appendix B. While the University of Maryland's Robert H. Smith School of Business is accredited by the American Association of Collegiate Schools of Business (AACSB), no specialized accreditation is sought for this program.

Comparison with other programs

Within the state of Maryland, there is one other MS program in Supply Chain Management, which is at Towson University. The Towson program is designed for working professionals to take in the evenings and can be finished in two calendar years. Our program is offered during the day, designed for the full-time student who can complete the program in two semesters, one academic year.

Overall, our program emphasizes hands-on learning experiences using sophisticated software applications in Enterprise Resource/Supply Chain Planning, Risk Management, Warehouse Management, and Transportation Management. We make substantial use of our Supply Chain Manager Center's laboratory and facilities to accomplish this. The Supply Chain Management Center, established over 15 years ago, is recognized nationally as one of the leading centers for the study of supply chain management.

Nationally, peer institutions with programs similar to ours include the University of Michigan, Michigan State University, Ohio State University, and Purdue University.

Academic Oversight, Quality Control and Student Services

Oversight will be provided by a Director of the program along with a committee of at least three faculty members (Program Oversight Committee). The director and the committee will jointly address issues including admissions, curriculum design, academic policies, student activities, and internship / placement opportunities. The chair of the Logistics, Business & Public Policy (LBPP) department and the Dean's office will also oversee the program.

The LBPP department of the Robert H Smith School of Business currently has a faculty of 24 FTE, with 10 in the area of supply chain management. Fifteen of these are tenure/ tenure track. The majority of faculty members have doctoral degrees and all teaching faculty have graduate degrees in their specialized field. A few courses in the program may be taught by faculty in other departments of the Robert H. Smith School of Business.

Method of Delivery

Currently, the program is structured to be entirely delivered in a traditional classroom setting on the College Park campus. Over time, we may evaluate online and/or blended learning opportunities.

Should courses move to an online format, the guidance outlined in COMAR 13B.02.02.22C: “Principles and Guidelines for Distance Education Programs” will be followed.

Commitment to Diversity and the State’s Minority Achievement Goals

The Robert H. Smith School of Business community is multifaceted at every level – students, staff and faculty represent a diverse blend of backgrounds, nationalities, ethnicities and experiences. About a dozen Smith School and student clubs are focused on bringing members together who have similar interests in gender, nationality, religion, and sexual orientation.

Current efforts include a wide range of recruiting efforts, including visits to academic program fairs, use of social media, visits to U.S. colleges and universities, presentations at professional conferences, and participation in Graduate Business Education events targeted for populations typically underrepresented in graduate business programs, particularly U.S. minorities and women. Future efforts will include targeted recruiting towards military families and veterans, highlighting of alumni and current graduate students who reflect a more diverse population.

Resources and Finance

Because this program replaces a current concentration within an existing program and we do not at this time anticipate growing it beyond its current scale, no additional courses, changes in advising, physical resources, or administrative workload are anticipated. Approval of this proposal would not alter the responsibilities of the faculty beyond those already generated by the existing Masters of Science in Business and Management with the concentration in Logistics & Transportation that this proposal seeks to replace.

The President assures that institutional library resources meet new program needs.

Appendix A: Course Descriptions

Sample Student Schedule

Below are tables showing how a typical MS-SCM student can complete the required coursework over a one-year period as a full-time student, or over 1.5 years if desired.

Schedule for full-time MSSCM, Masters of Science in Supply Chain Management, for students wishing to complete in one academic year

Fall	Spring
Global Supply Chain Management* Transportation Management* Global Value Chain & Trade Logistics Supply Chain Resources, Planning, & Analytics Warehousing Design & Distribution	Operations Management* Supply Chain Strategy* Global Supply Chain Risk Management* Strategic Sourcing & Procurement Management Special Topics in Supply Chain Management

*Denotes Core Courses

Schedule for full-time MSSCM, Masters of Science in Supply Chain Management, for students wishing to complete in three semesters

Fall 1	Spring	Fall 2
Global Supply Chain Management* Global Value Chain & Trade Logistics Supply Chain Resources, Planning, & Analytics	Operations Management* Supply Chain Strategy* Global Supply Chain Risk Management* Strategic Sourcing & Procurement Management Warehousing Design & Distribution	Transportation Management* Special Topics in Supply Chain Management

Courses

All courses are 3 credit hours.

Global Supply Chain Management This course offers a practical blueprint for understanding, building, implementing, and sustaining supply chains in today's rapidly changing global supply chain environment. Provides a survey of the evolution of supply chain strategies, business models and technologies; current best practices in demand and supply management; and methodologies for conducting supply chain-wide diagnostic assessments and formulating process improvement plans.

Operations Management This course is concerned with efficient and effective design and operation of business processes for delivering products and/or services. Emphasis is given to process analysis and design, capacity management and bottlenecks, waiting lines and the impact of uncertainty in process performance, quality management, lean, six-sigma, and revenue management.

Global Supply Chain Risk Management Explores analytical methods to build enterprise resilience from the perspectives of the supply chain planner and supply chain manager. Addresses concerns assessing strategic and operational risks, day to day uncertainties in demand and supply, and ensuring business continuity after low probability but high impact events such as a terrorist attack or earthquake.

Global Value Chain & Trade Logistics Acquaints students with managerial issues and best practices in international marketing, global sourcing & distribution, and international logistics. Provides students with an understanding of issues related to import/export management.

Supply Chain Resources, Planning, & Analytics Provides an understanding of how firms use an advanced supply chain planning (ASCP) application as an integral part of their materials management process - includes such activities as production planning, materials requirements planning, distribution requirements planning and inventory management.

Transportation Management An overview of the transportation field with an emphasis on freight movements from the perspective of both providers of capacity and users of freight services. Examines the characteristics of the freight modes and the role of each mode as a major component of logistics and supply chain management.

Strategic Sourcing & Procurement Management This course will focus on the important topic of strategic sourcing and purchasing management. Topics will include: make or buy (outsourcing), selection, supplier relationships, supplier performance evaluation, strategic cost management, product design and sourcing strategy, e-sourcing (auctions vs. relationships), and compliance issues.

Warehousing Design & Distribution This course will focus on the important topic of optimizing the design of warehouses and utilizing analytics to identify best locations for a distribution center. Topics will include: Product storage, inbound operations, outbound operations, value-added processes and designing an efficient distribution network.

Supply Chain Strategy Students are required to undertake an assessment of the supply chain strategy of a firm. The major requirement is a documented report analyzing the various aspects of the firm's supply chain strategy, strengths and weaknesses, and recommendation for improvement.

Special Topics in Supply Chain Management This course will feature a specialized topic. This could include the use of technology in supply chain management, global supply chain mapping and quality control, negotiations in supply chain or another current topic in the growing field of supply chain management.

Appendix B: Student Learning Outcomes and Assessment

Learning Outcome 1	Students will demonstrate a clear understanding of the basic concepts of Global Supply Chain Management, Operations Management, and Supply Chain Resources Planning and Analytics
Measure:	Students will be required to pass a core set of classes in these areas
Criterion:	At least 90% of the students will receive a rating of “Satisfactory” or better from the Academic Director, who will review their performance in the core classes. The Academic Director will meet with students rated below “Satisfactory” to help improve their performance or determine their continued participation in the program
Assessment:	At the end of every Semester the program is offered
Learning Outcome 2	Students will demonstrate a critical understanding of basic software used to manage and plan global supply chains.
Measure:	Students must take one course in which supply chain software applications are integrated into the curriculum
Criterion:	At least 90% of the students will receive a rating of “Satisfactory” or better from the course instructor
Assessment:	At the end of every Semester the program is offered
Learning Outcome 3	Students will demonstrate an ability to generate a corporate supply chain risk management assessment utilizing advanced software planning systems.
Measure:	Students must take one course in which they will be required to produce a corporate supply chain risk management assessment
Criterion:	At least 90% of the students will receive a rating of “Satisfactory” or better from the course instructor
Assessment:	At the end of every Semester the program is offered

Table 1: Resources			
Resources Categories	Year 1	Year 2	Year 3
1. Reallocated Funds	None	None	None
2. Tuition/Fee Revenue (“a x d” below)	\$3,206,250	\$3,302,438	\$3,401,511
a. FT Students	150	150	150
b. Credit Hour Rate	\$1,425	\$1,467.75	\$1,512
c. Annual Credit Hours	15	15	15
d. Annual Fee Rate	\$21,375	\$22,016	\$22,677
3. Grants, Contracts, & Other External Sources	None	None	None
4. Other Sources	None	None	None
TOTAL (Add 1 - 4)	\$3,206,250	\$3,302,438	\$3,401,511

* The tuition/fee revenue is based a graduate tuition rate of \$1,425 per credit hour, as approved by the USM Board of Regents.

Table 2: Expenditures			
Expenditure Categories	Year 1	Year 2	Year 3
1.Total Faculty* (b+c below)	\$1,835,625	\$1,890,694	\$1,947,415
a. #FTE	8	8	8
b. Total Salary	\$1,468,500	\$1,512,555	\$1,557,932
c. Total Benefits	\$367,125	\$378,139	\$389,483
2.Total Administrative(b+c below)	\$74,643	\$76,882	\$79,189
a. #FTE	3	3	3
b. Total Salary	\$59,715	\$61,506	\$63,351
c. Total Benefits	\$14,929	\$15,376	\$15,838
3.Total Support Staff (b+c below)	\$692,638	\$713,417	\$734,819
a. #FTE	9	9	9
b. Total Salary	\$288,984	\$297,654	\$306,583
c. Total Benefits	\$72,246	\$74,413	\$76,646
4. New or Renovated Space			
5. Student Services	\$51,875	\$51,875	\$51,875
6. Marketing	\$50,000	\$50,000	\$50,000
7. Recruiting & Admissions	\$55,000	\$55,000	\$55,000
8. Career Services	\$30,150	\$30,150	\$30,150
9. Student Aid	\$50,000	\$50,000	\$50,000
10. Other Expenses	\$0	\$0	\$0
TOTAL (Add 1 - 10)	\$2,839,931	\$2,918,018	\$2,998,448