

# Science Management and Leadership (MS)

This program is offered by the College of Arts & Sciences, and is only available online.

## Program Description

The master of science (MS) in science management and leadership is designed for professional scientists and engineers who are advancing in their careers in management and leadership roles. The program is intended to provide these professionals with competencies in science writing, project management, leadership, regulatory affairs and quality systems, intellectual property, business law, finance, marketing, communications and ethics. The program will provide opportunities for mentoring and networking experiences.

## Learning Outcomes

Upon completion of the program, students will be able to:

- Compose and present written and verbal information clearly and effectively to a variety of audiences.
- Discuss the role of ethical standards in business and leadership.
- Demonstrate the ability to work in teams, resolve conflict and lead to achieve common goals.
- Formulate the role of marketing, finance and budgeting in the process of product development for science-based operations.
- Formulate the role of intellectual property in science-based operations.
- Construct and evaluate project plans in accordance with regulatory and qualitative affairs standards for science-based operations.

## Program Curriculum

The 36 credit hours required for the MS in science management and leadership must include the following courses:

- SCML 5100 Technical Writing for Science (3 hours)
- SCML 5050 Communication for Professional Science Management and Leadership (3 hours)
- MNGT 5590 Organizational Behavior (3 hours)
- SCML 5590 Ethics and Social Responsibility in Science Management and Leadership (3 hours)
- PATA 5120 Foundations in Intellectual Property Law (3 hours)
- SCML 5700 Marketing and Comparative Analysis for Science Management and Leadership (3 hours)
- BUSN 5200 Basic Finance for Managers (3 hours)
- SCML 5800 Project Management (3 hours)
- SCML 5850 Regulatory and Qualitative Affairs for Science Management and Leadership (3 hours)
- SCML 6000 Practical Application in Science Management and Leadership (3 hours)

In addition, the student chooses the remaining required credit hours from elective courses offered in this major and/or from the program curricula of other majors. All students must take at least one science elective course from the following list as part of their two elective choices:

- ENMG 5400 Environmental Sustainability (3 hours)
- ENMG 5000 Environmental Science (3 hours)
- ENMG 5420 Natural Resource Management and Sustainability (3 hours)
- ENMG 5430 Energy Policy and Sustainability (3 hours)
- GERN 5000 Gerontology (3 hours)
- GERN 5620 Physiology of Aging (3 hours)

- SPSM 5000 Space Environment (3 hours)
- SPSM 5750 Space Systems Engineering (3 hours)
- SPSM 5760 Space Bio-Astronautics (3 hours)

## Dual Degree Option: MBA/MS in Science Management and Leadership

### 54 to 57 Credit Hours

Requirements for a dual degree with the MBA program generally include the required MBA courses (33 hours) and the required coursework in the additional degree program, except where noted below. If BUSN 5000 has been waived, the required hours are reduced by 3 credits and the BUSN 5000 course does not require a substitution.

Upon completion of all required credit hours, two separate diplomas are issued at the same time. The two degrees cannot be awarded separately or sequentially under this arrangement.

- BUSN 5000 Business (3 hours)
- MBA 5010 Value Creation (3 hours)
- MBA 5020 Quantitative Methods for the MBA (3 hours)
- MBA 5030 Market Analysis and Business Planning (3 hours)
- MBA 5100 Adding Value through Human Capital (3 hours)
- MBA 5200 The Financial Value of Capital Projects (3 hours)
- MBA 5300 Providing Value to Customers (3 hours)
- MBA 5400 The Supply Chain and Business Processes (3 hours)
- MBA 5500 Information Support for Decision Making (3 hours)
- MBA 5910 Cases in Value Creation (3 hours)
- MBA 5920 Walker Consulting Project: Adding Value to Organizations (3 hours)
- SCML 5100 Technical Writing for Science (3 hours)
- SCML 5050 Communication for Professional Science Management and Leadership (3 hours)
- SCML 5700 Marketing and Comparative Analysis for Science Management and Leadership (3 hours)
- PATA 5120 Foundations in Intellectual Property Law (3 hours)
- SCML 5800 Project Management (3 hours)
- SCML 5850 Regulatory and Qualitative Affairs for Science Management and Leadership (3 hours)
- SCML 6000 Practical Application in Science Management and Leadership (3 hours)

In addition, all students must also take at least one science elective course from the following list:

- ENMG 5400 Environmental Sustainability (3 hours)
- ENMG 5000 Environmental Science (3 hours)
- ENMG 5420 Natural Resource Management and Sustainability (3 hours)
- ENMG 5430 Energy Policy and Sustainability (3 hours)
- GERN 5000 Gerontology (3 hours)
- GERN 5620 Physiology of Aging (3 hours)
- SPSM 5000 Space Environment (3 hours)
- SPSM 5750 Space Systems Engineering (3 hours)
- SPSM 5760 Space Bio-Astronautics (3 hours)

## Sequential Degree in Science Management and Leadership

A student who holds an MA, MS or an equivalent graduate degree from Webster University or another regionally accredited college or university (or its international equivalent) may earn a sequential MS in science management and leadership from

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Webster University. Transfer credit may not be applied toward the sequential MS.

The student must complete the 30 credit hours of required core courses to earn the sequential MS in science management and leadership, and must include with the required 30 hours a science elective from the list above. If the student has previously completed or received credit for any of these courses, appropriate substitutes must be approved by the SCML program director.

## Admission

See the Admission section of this catalog for general admission requirements. Students interested in applying must submit their application online at [www.webster.edu/apply](http://www.webster.edu/apply). Transcripts should be sent from your institution electronically to [transcripts@webster.edu](mailto:transcripts@webster.edu). If this service is not available, send transcripts to:

Office of Admission  
Webster University  
470 E. Lockwood Ave.  
St. Louis, MO 63119

## Additional Requirements

Requirements for admission to the MS in science management and leadership program include:

- Bachelor's degree and a minimum cumulative GPA of 3.0 on a 4.0 scale. Students with a cumulative GPA of at least 2.75 can be reviewed for conditional admission.
- Official transcripts from **all** universities, colleges and professional schools.
- A one-page Statement of Purpose\* outlining the student's interest in the field of science/engineering and choice to pursue an SCML degree, including any relevant information the student would like the Admissions Committee to consider regarding their career goals.

**\*These required materials must be electronically uploaded to the application account.**

*Completed applications will be reviewed by the SCML Admissions Committee.*

## Advancement to Candidacy

Students are admitted to their graduate program upon completion of all admission requirements and approval by the SCML Admissions Committee. Students are advanced to candidacy status after successfully completing 12 credit hours of graduate credit with a cumulative GPA of 3.0 or higher. All students are required to complete SCML 5100 Technical Writing for Science prior to advancement to candidacy. In specialized programs, courses required as prerequisites to the program do not count toward the 12 credit hours required for advancement.

Graduation from the SCML program requires successful completion of a capstone project during SCML 6000 and approval of the capstone presentation by a committee of at least three members, including the capstone instructor and two other appropriate subject matter members. Committee members may be selected by the student, subject to approval by the capstone instructor. Enrollment in SCML 6000 mandates all other required SCML courses have been completed or are being taken simultaneously with SCML 6000, and is subject to approval by the SCML program director.