

**SPS Graduate Program Curricula  
2014-15**

The following program requirements apply to SPS graduate students that begin their program in the 2014-15 academic year. Please note that you are bound to the curriculum requirements in effect in the quarter you start taking courses, not the quarter you are admitted. While we will make every reasonable effort to accommodate students whose programs change, this is not always possible. Northwestern University reserves the right to modify or discontinue any program without notice.

Click on the links below to review the curriculum for your degree program.

[Information Systems – On Campus or Distance Learning \(Blended\)](#)

[Creative Writing \(MA\)](#)

[Creative Writing \(MFA\)](#)

[Global Health - Distance Learning](#)

[Liberal Studies](#)

[Literature](#)

[Medical Informatics- Distance Learning](#)

[Predictive Analytics- Distance Learning](#)

[Public Policy and Administration – On Campus and Distance Learning](#)

[Regulatory Compliance](#)

[Sports Administration](#)

Click on the links below to review the curriculum for your certificate of advanced graduate study.

[Advanced Data Science](#)

[Information Systems](#)

[Liberal Studies](#)

[Literature](#)

[Medical Informatics](#)

[Public Policy and Administration](#)

[Regulatory Compliance](#)

**Information Systems – On Campus or Distance Learning (Blended)**

**Master of Science Degree Requirements**

Please note: Courses completed in the degree program cannot be transferred to a corresponding certificate of advanced graduate study.

<b>Courses</b>	<b>Units</b>
<b>Core/Required courses</b>	<b>5 (4 for ABI)</b>
CIS 413 Telecommunications and Computer Networks <i>(not required for the Analytics and Business Intelligence specialization)</i>	1
CIS 414 Object-Oriented Programming	1
CIS 417 Database Systems Design and Implementation	1
LEADERS 481 Foundations of Leadership	1
One of the following:	
CIS 498 Computer Information Systems Project - <b>or</b> -	1
CIS 590 Capstone Research (see the SPS Graduate Handbook for guidelines)	
<b>Area of specialization</b> (Choose 1 of the following 7 specializations)	
<b><i>Analytics and Business Intelligence</i></b> CIS 494 Project Management Concepts CIS 435 Practical Data Science Using Machine Learning CIS 436 Big Data Management and Analytics PREDICT 400 Math for Modelers PREDICT 401 Introduction to Statistical Analysis <i>Plus</i> Any two other electives from the MSIS curriculum	<b>7</b>
<b><i>Database and Internet Technologies</i></b> CIS 494 Project Management Concepts CIS 419 Web Application Development CIS 431 Database Administration CIS 435 Practical Data Science Using Machine Learning <i>Plus</i> Any two other electives from the MSIS curriculum	<b>6</b>
<b><i>Information Systems Security</i></b> CIS 494 Project Management Concepts CIS 452 Fundamentals of Network Security CIS 455 Business Continuity and Disaster Recovery CIS 457 Management of Information Security <i>Plus</i> Any two other electives from the MSIS curriculum	<b>6</b>



<p><b><i>Project Management</i></b>            CIS 494 Project Management Concepts            CIS 495 IT Project Management            CIS 496 Information Technology Finance and Communication  <i>Plus</i>            Any three other electives from the MSIS curriculum</p>	<b>6</b>
<p><b><i>Information Systems Management</i></b>            CIS 494 Project Management Concepts            CIS 457 Management of Information Security            CIS 460 Information Technology Management            CIS 465 Information Technology Strategy  <i>Plus</i>            Any two other electives from the MSIS curriculum</p>	<b>6</b>
<p><b><i>Medical Informatics (online only)</i></b>            MED_INF 402 or MHI 402 Introduction to Clinical Thinking            MED_INF 403 or MHI 403 Introduction to Medical/Health Informatics            MED_INF 405 or MHI 405 HIT Integration, Interoperability and Standards            MED_INF 406 or MHI 406 Decision Support Systems and Health Care  <i>Plus</i>            Any two elective courses from the MSIS curriculum</p>	<b>6</b>
<p><b><i>Information Systems</i></b>            CIS 494 Project Management Concepts  <i>Plus</i>            Any five elective courses from the MSIS curriculum</p>	<b>6</b>
<p><b><i>Total required units</i></b></p>	<b>11</b>

**Certificate of Advanced Graduate Study Requirements**

Please note: Courses completed in the certificate program cannot be transferred to the corresponding graduate degree.

Analytics and Business Intelligence for IT Professionals	Units
<b>Courses</b>	
PREDICT 400 Math for Modelers	1
PREDICT 401 Introduction to Statistical Analysis	1
CIS 435 Practical Data Science Using Machine Learning	1
CIS 436 Big Data Management and Analytics	1
<b>Total required units:</b>	<b>4</b>

Database and Internet Technologies	Units
<b>Courses</b>	
CIS 414 Object-Oriented Programming	1
CIS 419 Web Application Development	1
CIS 435 Practical Data Science Using Machine Learning	1
and one of the following:	
CIS 431 Database Administration	1
CIS 436 Big Data Management and Analytics	1
<b>Total required units:</b>	<b>4</b>

Information Systems Management	Units
<b>Courses</b>	
CIS 494 Project Management Concepts	1
CIS 457 Management of Information Security	1
CIS 460 Information Technology Management	1
CIS 465 Information Technology Strategy	1
<b>Total required units:</b>	<b>4</b>

Information Systems Security	Units
<b>Courses</b>	
CIS 413 Telecommunications and Computer Networks	1
CIS 452 Fundamentals of Network Security	1
CIS 455 Business Continuity and Disaster Recovery	1
CIS 457 Management of Information Security	1
<b>Total required units:</b>	<b>4</b>

**Creative Writing (MA)  
Master of Arts Degree Requirements**

<b>Courses</b>	<b>Units</b>
Three workshops in one genre: Fiction: MCW 413 Fiction Workshop Creative Nonfiction: MCW 461 Creative Nonfiction Workshop Poetry: MCW 411 Poetry Workshop	3
One cross-genre course: Fiction: MCW 479 Poetry for Prose Writers Creative Nonfiction: MCW 479 Poetry for Prose Writers Poetry: MCW 480 Prose Genres for Poets	1
Two graduate-level literature courses. These literature courses may be taken from LIT, ENGLISH, COMP_LIT, or other departments of literary study. <sup>1</sup>	2
Three graduate-level course electives. May not include more than 2 MCW 499 Independent Study courses. <sup>1</sup>	3
MCW 590 Capstone Writing and Revision <i>(see the SPS Graduate Handbook for guidelines)</i>	1
<b><i>Total required units</i></b>	<b>10</b>

---

<sup>1</sup> Prior approval from the student adviser is required for registration in any courses offered by The Graduate School and IPLS courses. No approval is necessary for enrollment in MCW electives or LIT courses.

**Creative Writing (MFA)  
Master of Fine Arts Degree Requirements**

<b>Courses</b>	<b>Units</b>
Seven workshops in one genre: Fiction: MCW 413 Fiction Workshop Creative Nonfiction: MCW 461 Creative Nonfiction Workshop Poetry: MCW 411 Poetry Workshop	7
One cross-genre course: Fiction: Poetry for Prose Writers Nonfiction: MCW 479 Poetry for Prose Writers Poetry: MCW 480 Prose Genres for Poets	1
MCW 570 Seminar on Teaching Creative Writing	1
One of the following teaching or publishing courses: MCW 579 Practicum in Teaching Creative Writing MCW 575 Journal Publishing: TriQuarterly Online MCW 576 The Publishing Industry	1
Three graduate-level literature courses. These literature courses may be taken from LIT, ENGLISH, COMP_LIT, or other departments of literary study. <sup>1</sup>	3
Three graduate-level course electives. May not include more than 2 independent study courses. <sup>2</sup>	3
MCW 589 Capstone Preparation and Writing <i>(see the SPS Graduate Handbook for guidelines)</i>	1
MCW 590 Capstone Writing and Revision <i>(see the SPS Graduate Handbook for guidelines)</i>	1
<b><i>Total required units</i></b>	<b>18</b>

<sup>1</sup> Prior approval from the student adviser is required for registration in any courses offered by The Graduate School and IPLS courses. No approval is necessary for enrollment in MCW electives or LIT courses. Students are limited to three 300-level course registrations.

<sup>2</sup> Prior approval from the student adviser is required for registration in any courses offered by The Graduate School and IPLS courses. No approval is necessary for enrollment in MCW electives or LIT courses. Students are limited to three 300-level course registrations.

**Global Health - Distance Learning  
Master of Science Degree Requirements**

<b>Courses</b>	<b>Units</b>
<b>Core and required courses</b>	<b>9</b>
MSGH 405 Foundations of Global Health and Global Burden of Disease	1
MSGH 408 Biostatistics and Epidemiology	1
MSGH 410 Research Methods	1
MSGH 417 Global Health Systems	1
MSGH 419 Culture, Ethics, and Human Rights <sup>1</sup>	1
MSGH 421 Global Health, Globalization, and Public Policy	1
MSGH 427 Grant Writing, Development, and Fundraising	1
LEADERS 481 Foundations of Leadership	1
MSGH 580 Practicum Course (see the SPS Graduate Handbook for guidelines)	1
<b>Elective courses</b> (choose any three MSGH electives)	<b>3</b>
<b><i>Total required units</i></b>	<b>12</b>

<sup>1</sup> Course now titled MSGH 419 Bioethics and Human Rights

### Liberal Studies

#### Master of Arts Degree Requirements

Please note: Courses completed in the degree program cannot be transferred to a corresponding certificate of advanced graduate study. Also note: Students may not take more than fifty percent of their required courses outside of regularly scheduled SPS classes.

Courses	Units
IPLS 410 Introduction to Cultural Analysis	1
IPLS 401 Seminar in Liberal Studies I	1
Six graduate-level courses in liberal studies, humanities and related social sciences; may be applied toward a specialization (four courses) in any of the following: American Studies, Chicago Studies, History, Religious and Ethical Studies, or an individualized specialization. No more than three of these courses may be at the 300-level. <sup>1</sup>	6
IPLS 590 Thesis Research (see the SPS Graduate Handbook for guidelines)	1
<b><i>Total required units</i></b>	<b>9</b>

#### Certificate of Advanced Graduate Study Requirements

Please note: Courses completed in the certificate program cannot be transferred to the corresponding graduate degree. Also note: Students may not take more than fifty percent of their required courses outside of regularly scheduled SPS classes.

American Studies, Chicago Studies, History, Religious and Ethical Studies, Interdisciplinary Studies	<b>Units</b>
<b>Courses</b>	
Any four courses in the area of specialization	4
The following may also count towards the total required units:	
Independent Study (499)	1
IPLS 590 Thesis Research (see the SPS Graduate Handbook for guidelines)	1
<b><i>Total required units:</i></b>	<b>4</b>

<sup>1</sup> Prior approval from the student adviser is required for registration in any courses offered by The Graduate School. No approval is necessary for enrollment in LIT or IPLS courses. Students are limited to three 300-level course registrations.



### Literature

#### Master of Arts Degree Requirements

Please note: Courses completed in the degree program cannot be transferred to a corresponding certificate of advanced graduate study. Also note: Students may not take more than fifty percent of their required courses outside of regularly scheduled SPS classes.

Courses	Units
LIT 410 Introduction to Graduate Study	1
Seven graduate-level literature Courses (400–levels). No more than three of these courses may be at the 300-level. <sup>1</sup> If a student is interested in specializing in American Literature, British Literature, Comparative and World Literature, Literature, Film and Visual Studies, or an individualized specialization, the student must complete four courses within that specialization.	7
LIT 590 Thesis Research (see the SPS Graduate Handbook for guidelines)	1
<b><i>Total required units</i></b>	<b>9</b>

#### Certificate of Advanced Graduate Study Requirements

Please note: Courses completed in the certificate program cannot be transferred to the corresponding graduate degree. Also note: Students may not take more than fifty percent of their required courses outside of regularly scheduled SPS classes.

American Literature, British Literature, Comparative and World Literature, Film, Literature and Visual Culture, Interdisciplinary Studies	Units
<b>Courses</b>	
Any four literature-based courses in the area of specialization	4
The following may also count towards the total required units:	
Independent Study (499)	1
IPLS 590 Thesis Research (see the SPS Graduate Handbook for guidelines)	1
<b><i>Total required units:</i></b>	<b>4</b>

<sup>1</sup> Prior approval from the student adviser is required for registration in any courses offered by The Graduate School. No approval is necessary for enrollment in LIT courses. Students are limited to three 300-level course registrations.

**Medical Informatics- Distance Learning  
Master of Science Degree Requirements**

Please note: Courses completed in the degree program cannot be transferred to a corresponding certificate of advanced graduate study.

<b>Courses</b>	<b>Units</b>
<b>Track courses</b> (determined upon admission)	<b>0-4</b>
<b><i>Clinical Track</i></b>	
CIS 413 Telecommunications and Computer Networks	1
CIS 417 Database Systems Design and Implementation	1
<b><i>Technologist Track</i></b>	
MED INF or MHI 401 American Health Care System	1
MED INF or MHI 402 Introduction to Clinical Thinking	1
<b>Core courses</b>	<b>9</b>
MED INF or MHI 403 Introduction to Medical Informatics	1
MED INF or MHI 404 Health Care Enterprise Operations	1
MED INF or MHI 405 Health Care Information Tech Integration & Standards	1
MED INF or MHI 406 Decision Support Systems & Health Care	1
MED INF or MHI 407 Legal, Ethical & Social Issues in Informatics	1
MED INF or MHI 408 Medical Technology Acquisition & Assessment	1
MED INF or MHI 409 Introduction to Biostatistics	1
LEADERS 481 Foundations of Leadership	1
<i>One of the following:</i>	
MED INF or MHI 498 Capstone Project – <b>or</b> -	1
MED INF or MHI 590 Thesis Research (see the SPS Graduate Handbook for guidelines)	
<b><i>Total required units</i></b>	<b>11<sup>1</sup>-13</b>

<sup>1</sup> The minimum number of units required for the degree is 11. Students who have completed all other curriculum requirements and have fewer than eleven units should complete sufficient additional electives to meet this requirement.

### Certificate of Advanced Graduate Study Requirements

Please note: Courses completed in the certificate program cannot be transferred to the corresponding graduate degree.

Fundamentals of Medical Informatics	Units
<b>Courses</b>	
CIS 413 Telecommunications and Computer Networks	1
CIS 417 Database Systems Design and Implementation	1
MED INF or MHI 401 American Health Care System	1
MED INF or MHI 402 Introduction to Clinical Thinking	1
and any two of the following:	
MED INF or MHI 403 Introduction to Medical Informatics	1
MED INF or MHI 404 Health Care Enterprise Operations	1
MED INF or MHI 405 Health Care Information Tech Integration & Standards	1
MED INF or MHI 406 Decision Support Systems & Health Care	1
MED INF or MHI 407 Legal, Ethical & Social Issues in Informatics	1
MED INF or MHI 408 Medical Technology Acquisition & Assessment	1
MED INF or MHI 409 Introduction to Biostatistics	1
<b><i>Total required units:</i></b>	<b>6</b>

Medical Informatics for Clinicians	Units
<b>Courses</b>	
CIS 413 Telecommunications and Computer Networks	1
CIS 417 Database Systems Design and Implementation	1
and any two of the following:	
MED INF or MHI 403 Introduction to Medical Informatics	1
MED INF or MHI 404 Health Care Enterprise Operations	1
MED INF or MHI 405 Health Care Information Tech Integration & Standards	1
MED INF or MHI 406 Decision Support Systems & Health Care	1
MED INF or MHI 407 Legal, Ethical & Social Issues in Informatics	1
MED INF or MHI 408 Medical Technology Acquisition & Assessment	1
MED INF or MHI 409 Introduction to Biostatistics	1
<b><i>Total required units:</i></b>	<b>4</b>



NORTHWESTERN  
UNIVERSITY

SCHOOL OF  
PROFESSIONAL  
STUDIES

Medical Informatics for IT Professionals	Units
<b>Courses</b>	
MED INF or MHI 401 American Health Care System	1
MED INF or MHI 402 Introduction to Clinical Thinking	1
and any two of the following:	
MED INF or MHI 403 Introduction to Medical Informatics	1
MED INF or MHI 404 Health Care Enterprise Operations	1
MED INF or MHI 405 Health Care Information Tech Integration & Standards	1
MED INF or MHI 406 Decision Support Systems & Health Care	1
MED INF or MHI 407 Legal, Ethical & Social Issues in Informatics	1
MED INF or MHI 408 Medical Technology Acquisition & Assessment	1
MED INF or MHI 409 Introduction to Biostatistics	1
<b><i>Total required units:</i></b>	<b>4</b>

**Predictive Analytics- Distance Learning**  
**Master of Science Degree Requirements**

Please note: Courses completed in the degree program cannot be transferred to a corresponding certificate of advanced graduate study.

<b>Courses</b>	<b>Units</b>
<b>Core and required courses</b>	<b>10</b>
PREDICT 400 Math for Modelers	1
PREDICT 401 Introduction to Statistical Analysis	1
PREDICT 402 Introduction to Predictive Analytics	1
PREDICT 410 Regression and Multivariate Analysis	1
PREDICT 411 Generalized Linear Models	1
PREDICT 413 Applied Time Series and Forecasting	1
PREDICT 420 Database Systems and Data Preparation - <b>or</b> -	1
CIS 417 Database Systems Design and Implementation	
PREDICT 422 Practical Machine Learning - <b>or</b> -	1
CIS 435 Practical Data Science Using Machine Learning	
<i>One of the following:</i>	
PREDICT 475 Project Management - <b>or</b> -	1
PREDICT 480 Business Leadership and Communications - <b>or</b> -	
LEADERS 481 Foundations of Leadership	
<i>One of the following:</i>	
PREDICT 590 Thesis (see the SPS Graduate Handbook for guidelines) - <b>or</b> -	1
PREDICT 498 Capstone Project	
<b>Elective courses</b> (choose any two PREDICT electives, including 490 special topics and select CIS courses)	<b>2</b>
<b><i>Total required units</i></b>	<b>12</b>

**Certificate of Advanced Graduate Study Requirements**

Please note: Courses completed in the certificate program cannot be transferred to the corresponding graduate degree.

Advanced Data Science	<b>Units</b>
<b>Courses:</b>	
Any four PREDICT electives, including 490 special topics and select CIS courses	4
<b><i>Total required units:</i></b>	<b>4</b>

**Public Policy and Administration – On Campus and Distance Learning**

**Master of Arts Degree Requirements**

Please note: Courses completed in the degree program cannot be transferred to a corresponding certificate of advanced graduate study.

<b>Courses</b>	<b>Units</b>
<b>Core and required courses</b>	<b>11</b>
MPPA 401 Research Methods	1
MPPA 402 Elements of Public Finance & Budgeting	1
MPPA 403 Fundamentals of Public Administration	1
MPPA 404 Microeconomics for Public Policy and Administration	1
MPPA 405 Elementary Statistics for Research	1
MPPA 406 Analytic Methods for Public Policy Analysis	1
MPPA 407 Scope and Theory of Public Policy	1
MPPA 408 Organizational Theory <sup>1</sup>	1
MPPA 409 Strategies for Effective Writing and Communication	1
LEADERS 481 Foundations of Leadership	1
<i>One of the following:</i>	
MPPA 498 Capstone Project – <b>or</b> -	1
MPPA 590 Thesis Research (see the SPS Graduate Handbook for guidelines)	
<b>Specialization courses</b> (choose two electives in one of these specialization areas, or the “generalist” category to take electives not in the same track)	<b>2</b>
<i>Public Policy</i>	
<i>Public Administration</i>	
<i>Global Policy</i>	
<i>Health Services Policy (available to on-campus students only)</i>	
<b>Total required units</b>	<b>13</b>

<sup>1</sup> Students who take the newly titled 408 Public Organization Theory & Management class (fall 2015 or later) do not have to take LEADERS 481. A specialization class may be substituted.

**Certificate of Advanced Graduate Study Requirements**

Please note: Courses completed in the certificate program cannot be transferred to the corresponding graduate degree.

Global Policy	Units
<b>Courses</b>	
MPPA 407 Scope and Theory of Public Policy	1
MPPA 440 International Institutions	1
MPPA 450 International Macroeconomics	1
MPPA 452 The Global City	1
<b>Total required units:</b>	<b>4</b>

Public Administration	Units
<b>Courses</b>	
MPPA 403 Fundamentals of Public Administration	1
MPPA 411 The Legislative Process	1
MPPA 413 The Nonprofit/NGO Sector	1
MPPA 417 Public Human Resources	1
<b>Total required units:</b>	<b>4</b>

Policy Analysis	Units
<b>Courses</b>	
MPPA 404 Microeconomics for Public Policy and Administration	1
MPPA 405 Elementary Statistics for Research	1
MPPA 406 Analytic Methods for Public Policy Analysis	1
MPPA 407 Scope and Theory of Public Policy	1
<b>Total required units:</b>	<b>4</b>

Public Policy	Units
<b>Courses</b>	
MPPA 407 Scope and Theory of Public Policy	1
MPPA 419 Strategic Policy Environment	1
MPPA 432 Intergovernmental Relations	1
MPPA 435 Regulatory Policy	1
<b>Total required units:</b>	<b>4</b>

### Regulatory Compliance

#### Master of Science Degree Requirements

Please note: Courses completed in the degree program cannot be transferred to a corresponding certificate of advanced graduate study.

Courses	Units
<b>Core and required courses</b>	<b>6</b>
MSRC 401 Quality Systems for Regulatory Compliance	1
MSRC 405 Applied Research and Writing	1
MSRC 409 or MED_INF 409-DL Biostatistics (now MHI 409-DL)	1
MSRC 435 Risk and Decision Management	1
LEADERS 481 Foundations of Leadership	1
MSRC 590 Thesis Research - <b>or</b> -	1
MPPA 498 Capstone Project	
<b>Concentration area courses</b> (choose one specialization of 4 courses)	<b>4</b>
<b><i>Healthcare Compliance Track</i></b>	
HC_COM 410 Healthcare Regulatory Environment	1
HC_COM 411 Healthcare Compliance Programs	1
HC_COM 412 Healthcare Regulatory Enforcement	1
HC_COM 413 Healthcare Billing Models and Systems	1
<b><i>Clinical Research Track</i></b>	
CLIN RES 400 Essentials of Initiating Clinical Research	1
CLIN RES 401 Responsible Conduct of Research	1
QARS 450 Medical Device Regulations <b>or</b> QARS 460 Drug and Biologics Regulations	1
CLIN RES 403 Clinical Research Design and Methodology	1
<b><i>Quality Systems Track</i></b>	
QARS 420 Practical Quality Management	1
QARS 421 Applied Quality and Regulatory Practices	1
QARS 425 Quality Assurance Project Management	1
QARS 450 Medical Device Regulations <b>or</b> QARS 460 Drug and Biologics Regulations	1
<b>Cross-track course</b> (Any course in a track outside the student's home track)	<b>1</b>
<b><i>Total required units</i></b>	<b>11</b>



**Certificate of Advanced Graduate Study Requirements**

Please note: Courses completed in the certificate program cannot be transferred to the corresponding graduate degree.

Clinical Research	Units
<b>Courses</b>	
CLIN RES 400 Essentials of Initiating Clinical Research	1
CLIN RES 401 Responsible Conduct of Research	1
CLIN RES 403 Clinical Research Design and Methodology	1
and any one of the following:	
CLIN RES 402 Drug and Device Development	1
QARS 450 Medical Device Regulations	1
QARS 460 Drug and Biologics Regulations	1
<b>Total required units:</b>	<b>4</b>

Healthcare Compliance	Units
<b>Courses</b>	
HC_COM 410 Healthcare Regulatory Environment	1
HC_COM 411 Healthcare Compliance Programs	1
HC_COM 412 Healthcare Regulatory Enforcement	1
HC_COM 413 Healthcare Billing Models and Systems	1
<b>Total required units:</b>	<b>4</b>

Quality Systems	Units
<b>Courses</b>	
QARS 420 Practical Quality Management	1
QARS 421 Applied Quality and Regulatory Practices	1
QARS 425 Quality Assurance Project Management	1
and any one of the following:	
QARS 450 Medical Device Regulations	1
QARS 460 Drug and Biologics Regulations	1
<b>Total required units:</b>	<b>4</b>

**Sports Administration  
Master of Arts Degree Requirements**

<b>Courses</b>	<b>Units</b>
<b>Core and required courses</b>	<b>8</b>
MSA 401 Sports Research Methods & Quantitative Analysis <sup>1</sup> <i>(not required for the Sports Analytics Concentration)</i>	1
MSA 402 Fundamentals of Sports Marketing	1
MSA 403 Management and Organization of Sports	1
MSA 404 Sports Business: Finance, Accounting and Economics	1
MSA 405 Legal & Ethical Issues in Sports Management	1
MSA 406 Sports Public Relations and Crisis Management	1
LEADERS 481 Foundations of Leadership	1
<i>One of the following:</i>	
MSA 590 Thesis/Capstone (see the SPS Graduate Handbook for guidelines) <i>-or-</i>	1
MSA 498 Capstone Class	
<b>Electives Courses</b> (choose any three MSA electives)	<b>3</b>
<b>Sports Analytics Concentration<sup>2</sup></b>	
PREDICT 400-DL Math for Modelers	4
PREDICT 401-DL Introduction to Statistical Analysis	
PREDICT 456-DL Sports Performance Analytics	
PREDICT 457-DL Sports Management Analytics	
<b><i>Total required units</i></b>	<b>11</b>

<sup>1</sup> Students enrolled in the Sports Analytics Concentration are required to take Predict 401-DL Introduction to Statistical Analysis in lieu of MSA 401 Sports Research Methods & Quantitative Analysis.

<sup>2</sup> Students enrolled in the Sports Analytics Concentration are required to take the four course PREDICT sequence to fulfill both core and concentration requirements. MSA electives do not qualify for this concentration.