

**SPS Graduate Program Curricula  
2011-12**

The following program requirements apply to SPS graduate students that begin their program in the 2011-12 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 program.

[Clinical Research and Regulatory Administration](#)

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

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

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

[Liberal Studies](#)

[Literature](#)

[Medical Informatics- Distance Learning](#)

[Predictive Analytics- Distance Learning](#)

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

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

[Quality Assurance and Regulatory Science](#)

[Sports Administration](#)

**Clinical Research and Regulatory Administration  
Master of Science Degree Requirements**

<b>Courses</b>	<b>Units</b>
<b><i>Core Courses (7)</i></b>	
CLIN_RES 400 Essentials of Initiating Clinical Research	1
CLIN_RES 401 Responsible Conduct of Research	1
CLIN_RES 402 Drug and Device Development	1
CLIN_RES 403 Clinical Research Design and Methodology	1
CLIN_RES 404 Research and Regulatory Administration	1
CLIN_RES 409 Intro to Biostatistics or MED INF 409-DL Biostatistics (now MHI 409-DL)	1
QARS 405 Applied Research and Writing	1
<b><i>Electives (choose 2)<sup>1</sup></i></b>	<b>2</b>
<b><i>Other Required Courses (2)</i></b>	
LEADERS 481 Foundations of Leadership	1
CLIN RES 590 Capstone Project (see the SPS Graduate Handbook for guidelines)	1
<b><i>Total required units:</i></b>	<b>11</b>

**Graduate Certificate Requirements**

<b>Courses</b>	<b>Units</b>
<b><i>Core Courses (3)</i></b>	
CLIN_RES 400 Essentials of Initiating Clinical Research	1
CLIN_RES 401 Responsible Conduct of Research	1
CLIN_RES 402 Drug and Device Development	1
<b><i>Electives (choose 1)</i></b>	
CLIN_RES 403 Clinical Research Design and Methodology (Clinical Trials Conduct specialization)	1
CLIN_RES 404 Regulatory Support and Administration (Regulatory Administration specialization)	1
<b><i>Total required units:</i></b>	<b>4</b>

<sup>1</sup> A full list of approved electives for MCRRA may be found on the MCRRA program Blackboard site.

**Information Systems – On Campus or Distance Learning (Blended)  
Master of Science Degree Requirements**

<b>Courses</b>	<b>Units</b>
<b>Core Courses (3 courses)</b>	<b>3</b>
CIS 313-0 or CIS 313-DL Telecommunications & Computer Networks <sup>1</sup>	
CIS 314-0 or CIS 314-DL Object-Oriented Programming <sup>2</sup>	
CIS 317-0 or CIS 317-DL Database Design and Implementation <sup>3</sup>	
<b>Area of Specialization (Choose 1 specialization of 6 elective courses)</b>	<b>6</b>
<b><i>Database &amp; Internet Technologies</i></b> CIS 394-0 or CIS 394-DL Software Project Management & Development <sup>4</sup> CIS 419-0 or CIS 419-DL Web Application Development CIS 431-0 or CIS 431-DL Database Administration CIS 435-0 or CIS 435-DL Data Warehousing and Data Mining <sup>5</sup> Plus any two other electives from the MSIS curriculum	
<b><i>Information Systems Security</i></b> CIS 394-0 or CIS 394-DL Software Project Management & Development <sup>4</sup> CIS 452-0 or CIS 452-DL Fundamentals of Network Security CIS 455-0 or CIS 455-DL Business Continuity and Disaster Recovery CIS 457-0 or CIS 457-DL Management of Information Security Plus any two other electives from the MSIS curriculum	
<b><i>Software Development &amp; Project Management</i></b> CIS 394-0 or CIS 394-DL Software Project Management & Development <sup>4</sup> CIS 419-0 or CIS 419-DL Web Application Development CIS 483-0 or CIS 483-DL Software Testing and Quality Assurance Plus any three other electives from the MSIS curriculum	
<b><i>Information Systems Management</i></b> CIS 394-0 or CIS 394-DL Software Project Management & Development <sup>4</sup> CIS 457-0 or CIS 457-DL Management of Information Security CIS 460-0 or CIS 460-DL Information Technology Security <sup>6</sup> CIS 465-0 or CIS 465-DL Information Technology Strategy Plus any two other electives from the MSIS curriculum	
<b><i>Medical Informatics (online only)</i></b> MED_INF 402 or MHI 402 Introduction to Clinical Thinking	

<sup>1</sup> Now CIS 413 Telecommunications and Computer Networks.

<sup>2</sup> Now CIS 414 Introduction to Object-Oriented Programming.

<sup>3</sup> Now CIS 417 Database Systems Design and Implementation.

<sup>4</sup> Now CIS 494 Project Management I.

<sup>5</sup> Now CIS 435 Practical Data Science Using Machine Learning.

<sup>6</sup> Now CIS 460 Information Technology Management

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 Plus any two elective courses from the MSIS curriculum	
<b>Information Systems</b> CIS 394-0 or CIS 394-DL Software Project Management & Development <sup>1</sup> Plus any five elective courses from the MSIS curriculum	
<b>Other Required Courses</b>	
LEADERS 481-0 or LEADERS 481-DL Foundations of Leadership	1
One of the following	1
CIS 498-0 or CIS 498-DL Computer Information Systems Project - <i>or</i> -	
CIS 590-0 or CIS 590-DL Capstone Research (see the SPS Graduate Handbook for guidelines)	
<b>Total required units:</b>	<b>11</b>

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<sup>1</sup> Now CIS 494 Project Management I.

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

Courses	Units
Three workshops in one genre: <ul style="list-style-type: none"> <li>• Fiction: MCW 413 Fiction Workshop</li> <li>• Creative Nonfiction: MCW 461 Creative Nonfiction Workshop</li> <li>• Poetry: MCW 411 Poetry Workshop</li> </ul>	3
One cross-genre course: <ul style="list-style-type: none"> <li>• Fiction: MCW 479 Poetry for Prose Writers</li> <li>• Creative Nonfiction: MCW 479 Poetry for Prose Writers</li> <li>• Poetry: MCW 480 Prose Genres for Poets</li> </ul>	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 <sup>2</sup> <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 [academic coordinator](#) is required for registration in any courses offered by The Graduate School. No approval is necessary for enrollment in MCW electives, LIT, or IPLS courses.

<sup>2</sup> Now MCW 590 Capstone Writing and Revision.

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

Courses	Units
Seven workshops in one genre: <ul style="list-style-type: none"> <li>• Fiction: MCW 413 Fiction Workshop</li> <li>• Creative Nonfiction: MCW 461 Creative Nonfiction Workshop</li> <li>• Poetry: MCW 411 Poetry Workshop</li> </ul>	7
One cross-genre course: <ul style="list-style-type: none"> <li>• Fiction: Poetry for Prose Writers</li> <li>• Nonfiction: MCW 479 Poetry for Prose Writers</li> <li>• Poetry: MCW 480 Prose Genres for Poets</li> </ul>	1
MCW 570 Seminar on Teaching Creative Writing	1
One of the following teaching or publishing courses: <ul style="list-style-type: none"> <li>• MCW 579 Practicum in Teaching Creative Writing</li> <li>• MCW 575 Journal Publishing: TriQuarterly Online</li> <li>• MCW 576 The Publishing Industry</li> </ul>	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 Research <sup>3</sup> <i>(see the SPS Graduate Handbook for guidelines)</i>	1
MCW 590 Capstone <sup>4</sup> <i>(see the SPS Graduate Handbook for guidelines)</i>	1
<b>Total required units:</b>	<b>18</b>

<sup>1</sup> Prior approval from the [academic coordinator](#) is required for registration in any courses offered by The Graduate School. No approval is necessary for enrollment in MCW electives, LIT, or IPLS courses. Students are limited to 3 300-level course registrations.

<sup>2</sup> Prior approval from the [academic coordinator](#) is required for registration in any courses offered by The Graduate School. No approval is necessary for enrollment in MCW electives, LIT, or IPLS courses. Students are limited to three 300-level course registrations.

<sup>3</sup> Now MCW 589 Capstone Preparation and Writing.

<sup>4</sup> Now MCW 590 Capstone Writing and Revision.

**Liberal Studies  
Master of Arts Degree Requirements**

<b>Courses</b>	<b>Units</b>
IPLS 410 Introduction to Cultural Analysis	1
Two of the following seminars:	2
IPLS 401 Seminar in Liberal Studies I	
IPLS 402 Seminar in Liberal Studies II	
IPLS 403 Seminar in Liberal Studies III	
Five graduate-level courses in liberal studies, humanities and related social sciences; may be applied toward a specialization (4 courses) in either: American 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>	5
IPLS 590 Thesis Research (see the SPS Graduate Handbook for guidelines)	1
<b><i>Total required units:</i></b>	<b>9</b>

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<sup>1</sup> Prior approval from the [academic coordinator](#) 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 3 300-level course registrations.

**Literature**  
**Master of Arts Degree Requirements**

<b>Courses</b>	<b>Units</b>
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 graduate 300-level. <sup>1</sup>	7
LIT 590 Thesis Research (see the SPS Graduate Handbook for guidelines)	1
<b><i>Total required units:</i></b>	<b>9</b>

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<sup>1</sup> Prior approval from the [academic coordinator](#) 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 3 300-level course registrations.



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

<b>Courses</b>	<b>Units</b>
<b>Track Courses (determined upon admission)</b>	0-4
<b><i>Clinical Track</i></b>	
CIS 313-DL Telecommunications & Computer Networks <sup>1</sup>	
CIS 317-DL Database Systems Design and Implementation <sup>2</sup>	
<b><i>Technologist Track</i></b>	
MED INF or MHI 401-DL American Health Care System	
MED INF or MHI 402-DL Introduction to Clinical Thinking	
<b>Core courses (7)</b>	
MED INF or MHI 403-DL Introduction to Medical Informatics	1
MED INF 404 Health Care Enterprise Operations or MHI 404 Health Care Organization Operations	1
MED INF or MHI 405-DL Health Care Information Tech Integration & Standards	1
MED INF or MHI 406-DL Decision Support Systems & Health Care	1
MED INF or MHI 407-DL Legal, Ethical & Social Issues in Informatics	1
MED INF or MHI 408-DL Medical Technology Acquisition & Assessment	1
MED INF or MHI 409-DL Introduction to Biostatistics	1
<b>Other Required Courses (2)</b>	
LEADERS 481-DL Foundations of Leadership	1
<i>One of the following:</i>	1
MED INF or MHI 498-DL Capstone Project – or -	
MED INF or MHI 590-DL Thesis Research (see the SPS Graduate Handbook for guidelines)	
<b><i>Total required units:</i></b>	<b>11<sup>3</sup>-13</b>

<sup>1</sup> Now CIS 413 Telecommunications and Computer Networks

<sup>2</sup> Now CIS 417 Database Systems Design and Implementation. Prior to fall 2011, this course was known as CIS 317-DL 'Introduction to Databases.' All versions of these courses are considered equivalent.

<sup>3</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.

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

<b>Courses</b>	<b>Units</b>
<b>Core courses (7)</b>	
PREDICT 401-DL: Introduction to Statistical Analysis	1
PREDICT 402-DL: Introduction to Predictive Analytics & Data Collection <sup>1</sup>	1
CIS 317-DL: Database Systems Design and Implementation <sup>2</sup>	1
CIS 435-DL: Data Warehousing & Data Mining <sup>3</sup>	1
PREDICT 410-DL: Predictive Modeling I <sup>4</sup>	1
PREDICT 411-DL: Predictive Modeling II <sup>5</sup>	1
PREDICT 475-DL: Project Management	1
<b>Elective courses</b> (choose any two PREDICT electives, including 490 special topics and select CIS courses)	2
<b>Other Required Courses (2)</b>	
LEADERS 481-DL: Foundations of Leadership <sup>6</sup> – and -	1
<i>One</i> of the following:	1
PREDICT 590-DL: Thesis (see the SPS Graduate Handbook for guidelines) - or -	
PREDICT 498-DL: Capstone Project	
<b><i>Total required units:</i></b>	<b>11</b>

<sup>1</sup> Now titled PREDICT 402 Introduction to Predictive Analytics. Both versions of these courses are considered equivalent.

<sup>2</sup> As of fall 2014, students take CIS 417 Database Systems Design and Implementation or PREDICT 420 Database Systems and Data Preparation.

<sup>3</sup> As of fall 2014, students take CIS 435 Practical Data Science Using Machine Learning or PREDICT 422 Practical Machine Learning.

<sup>4</sup> Now titled PREDICT 410 Regression and Multivariate Analysis. Both versions of these courses are considered equivalent.

<sup>5</sup> Now titled PREDICT 411 Generalized Linear Models. Both versions of these courses are considered equivalent.

<sup>6</sup> As of fall 1014, all students now take LEADERS 481 Foundations of Leadership or PREDICT 480 Business Leadership and Communications.

**Public Policy and Administration – On Campus  
Master of Arts Degree Requirements**

<b>Courses</b>	<b>Units</b>
<b>Core courses (7)</b>	
MPPA 402 Elements of Public Finance & Budgeting	1
MPPA 403 Fundamentals of Public Administration	1
MPPA 405 Elementary Statistics for Research	1
MPPA 406 Analytic Methods for Public Policy Analysis	1
MPPA 407 Scope and Dynamics of Public Policy	1
MPPA 408 Sociology of Organizations	1
MPPA 409 Applied Research and Writing	1
<b>Concentration area courses (choose four electives in one of these areas of concentration)</b>	<b>4</b>
<i>Health Services Policy</i>	
<i>Public Policy</i>	
<i>Public Safety and Security</i>	
<i>Urban Policy</i>	
<b>Other Required Courses (2)</b>	
MPPA 590 Thesis Research (see the SPS Graduate Handbook for guidelines)	1
LEADERS 481 Foundations of Leadership	1
<b><i>Total Required Units</i></b>	<b>13</b>

**Public Policy and Administration – Distance Learning  
Master of Arts Degree Requirements**

<b>Courses</b>	<b>Units</b>
<b>Core courses (11)</b>	
MPPA 402-DL Elements of Public Finance & Budgeting	1
MPPA 403-DL Fundamentals of Public Administration	1
MPPA 404-DL Microeconomics for Public Policy and Administration	1
MPPA 405-DL Elementary Statistics for Research	1
MPPA 406-DL Analytic Methods for Public Policy Analysis	1
MPPA 407-DL Scope and Dynamics of Public Policy	1
MPPA 408-DL Sociology of Organizations	1
MPPA 409-DL Applied Research and Writing	1
MPPA 411-DL Legislative Process <sup>1</sup>	1
MPPA 419-DL Strategic Policy Implementation <sup>2</sup>	1
MPPA 452-DL The Global City <sup>3</sup>	1
<b>Other Required Courses (2)</b>	
MPPA 481-DL Foundations of Leadership	1
<i>One of the following:</i>	1
MPPA 498-DL Capstone Project – <b>or</b> -	
MPPA 590-DL Thesis Research (see the SPS Graduate Handbook for guidelines)	
<b>Total Required Units</b>	<b>13</b>

<sup>1</sup> Students may take any elective from the MPPA curriculum (e.g. 413, 417, 432, 435) to fulfill this requirement.

<sup>2</sup> Students may take any elective from the MPPA curriculum (e.g. 411, 413, 417, 435, 450) to fulfill this requirement.

<sup>3</sup> Students may take any elective from the MPPA curriculum (e.g. 411, 419, 440, 450) to fulfill this requirement.

**Quality Assurance and Regulatory Science  
Master of Science Degree Requirements**

<b>Courses</b>	<b>Units</b>
<b>Core Courses (7)</b>	
QARS 401 Regulation and Quality Systems	1
QARS 405 Applied Research and Writing	1
QARS 420 Practical Quality Management	1
QARS 421 Applied Quality and Regulatory Practices	1
QARS 430 Ethical and Legal Issues in Regulation and Quality	1
QARS 435 Risk and Decision Management	1
CLIN_RES 409 Intro to Biostatistics or MED INF 409-DL Intro to Biostatistics (online course)	1
<b>Electives (any two elective QARS or SPS-selected CRRA courses)</b>	<b>2</b>
<b>Other Required Courses (2)</b>	
LEADERS 481 Foundations of Leadership	1
QARS 590 Capstone Project (see the SPS Graduate Handbook for guidelines)	1
<b><i>Total required units:</i></b>	<b>11</b>

**Sports Administration  
Master of Arts Degree Requirements**

<b>Courses</b>	<b>Units</b>
<b>Core Courses (7)</b>	
MSA 400 Sports in the Social Context	1
MSA 401 Sports Research Methods & Quantitative Analysis	1
MSA 402 Fundamentals of Sports Marketing	1
MSA 403 Management and Organization of Sports	1
MSA 404 Principles of Sports Finance & Accounting <sup>1</sup>	1
MSA 405 Legal & Ethical Issues in Sports Management	1
MSA 406 Sports Risk and Crisis Management <sup>2</sup>	1
<b>Concentration area courses (choose two electives in one of these areas of concentration)<sup>3</sup></b>	<b>2</b>
<i>Sports Management</i>	
<i>Sports Marketing &amp; Public Relations</i>	
<b>Other Required Courses (2)</b>	
LEADERS 481 Foundations of Leadership	1
<i>One of the following:</i>	1
MSA 590 Thesis Research (see the SPS Graduate Handbook for guidelines) <i>-or-</i>	
MSA 498 Capstone Class	
<b><i>Total required units:</i></b>	<b>11</b>

<sup>1</sup> As of Fall 2014, MSA 404 is titled 'Sports Business: Finance, Accounting and Economics'

<sup>2</sup> As of Fall 2014, MSA 406 is titled 'Sports Public Relations and Crisis Management'

<sup>3</sup> Students admitted prior to Fall 2014 should petition to take any available electives to meet their specific program track requirements