

SPS Graduate Program Curricula
2009-2010

The following program requirements apply to SPS graduate students that begin their program in the 2009-10 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.

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Clinical Research and Regulatory Administration
Master of Science Degree Requirements

Courses	Units
Core Courses (7)	
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
QARS 405 Applied Research and Writing	1
QARS 410 Introduction to Statistical Methods for Regulatory Compliance ¹	1
Electives (choose 2)²	
QARS 401 Regulation and Quality Systems	1
QARS 425 Quality Assurance Project Management	1
QARS 430 Ethical and Legal Issues in Regulation and Quality	1
QARS 450 Medical Device Regulations	1
QARS 460 Drug and Biologics Regulations	1
QARS 490 Special Topics in Regulatory Affairs	1
Other Required Courses (2)	
LEADERS 481 Foundations of Leadership	1
CLIN RES 590 Capstone Project (see the SPS Graduate Handbook for guidelines)	1
Total required units:	11

¹ CLIN_RES 409 'Introduction to Biostatistics' and MED_INF 409-DL 'Introduction to Biostatistics' both substitute for this requirement.

² The elective courses listed are just examples. A full list of approved electives for MCRRA may be found on the MCRRA program Blackboard site.

Graduate Certificate Requirements

Courses	Units
Core Courses (3)	
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
Electives (choose 1)	
CLIN_RES 403 Clinical Research Design and Methodology (Clinical Trials Conduct specialization)	1
CLIN_RES 404 Regulatory Support and Administration (Regulatory Administration specialization)	1
<i>Total required units:</i>	4

**Computer Information Systems
Master of Science Degree Requirements**

Courses	Units
Core Courses (6)	6
CIS 313-0 or CIS 313-DL Telecommunications & Computer Networks ¹	
CIS 314-0 or CIS 314-DL Object-Oriented Programming ²³	
CIS 315-0 or CIS 315-DL Advanced Object-Oriented Programming ⁴	
CIS 317-0 or 317-DL Introduction to Databases ⁵	
CIS 350-0 or CIS 350-DL Strategic Information Systems ⁴	
CIS 394-0 or CIS 394-DL Software Project Management & Development ⁶	
Electives (choose any 3 electives <u>or</u> 3 courses in an optional area of specialization)	3
<i>Database & Internet Technologies</i>	
<i>Information Systems Security</i>	
<i>Software Development & Project Management</i>	
<i>Information Systems Management</i>	
Other Required Courses	2
LEADERS 481-0 or LEADERS 481-DL Foundations of Leadership	
<i>One of the following</i>	
CIS 498-0 OR CIS 498-DL Computer Information Systems Project - <i>or</i> -	
CIS 590 Capstone Project (see the SPS Graduate Handbook for guidelines)	
<i>Total required units:</i>	11

¹ Now CIS 413 Telecommunications and Computer Networks.

² Students who completed CIS 212-CN 'Introduction to Object Oriented Programming' but not CIS 314 'Intermediate Object-Oriented Programming' prior to Fall 2008 may substitute an elective in place of the requirement to take CIS 314.

³ Now CIS 414 Introduction to Object-Oriented Programming.

⁴ Students who had not graduated by June 2010 and had not completed CIS 315 and CIS 350 prior to Fall 2010 may substitute electives for these courses.

⁵ Now CIS 417 Database Systems Design and Implementation.

⁶ Now CIS 494 Project Management I.

Professional Graduate Series Requirements
Please note: overlapping courses may count toward one PGS only

Database and Internet Technologies	Units
Core Courses	
CIS 314-0 or CIS 314-DL Intermediate Object-Oriented Programming ¹	1
CIS 317-0 or 317-DL Introduction to Databases ²	1
and one of the following:	
CIS 419-0 or CIS 419-DL Web Application Development	1
CIS 431-0 or CIS 431-DL Database Administration	1
CIS 435-0 or CIS 435-DL Introduction to Data Warehousing and Data Mining ³	1
Total required units:	4

Information Systems Security	Units
Core Courses	
CIS 313-0 or CIS 313-DL Telecommunications & Computer Networks ⁴	1
CIS 452-0 or CIS 452-DL Fundamentals of Network Security	1
CIS 455-0 or CIS 455-DL Business Continuity & Disaster Recovery	1
CIS 457-0 or CIS 457-DL Management of Information Security	1
Total required units:	4

Software Project Management and Development	Units
Core Courses	
CIS 314-0 or CIS 314-DL Intermediate Object-Oriented Programming ¹	1
CIS 315-0 or CIS 315-DL Advanced Object-Oriented Programming ⁵	1
CIS 316-0 or CIS 316-DL Object-Oriented Analysis and Design	1
CIS 394-0 or CIS 394-DL Software Project Management and Development ⁶	1
and one of the following:	
CIS 483-0 or CIS 483-DL Software Testing and Quality Assurance	1
CIS 485-0 or CIS 485-DL Software Systems Architecture	1
Total required units:	5

¹ Now CIS 414 Introduction to Object-Oriented Programming.

² Now CIS 417 Database Systems Design and Implementation.

³ Now CIS 435 Practical Data Science Using Machine Learning.

⁴ Now CIS 413 Telecommunications and Computer Networks.

⁵ Students who had not graduated by June 2010 and had not completed CIS 315 and CIS 350 prior to Fall 2010 may substitute electives for these courses.

⁶ Now CIS 494 Project Management I.

Information Systems Management	Units
Core Courses	
CIS 394-0 or CIS 394-DL Software Project Management and Development ¹	1
CIS 457-0 or CIS 457-DL Management of Information Security	1
CIS 460-0 or CIS 460-DL Information Technology Management	1
CIS 465-0 or CIS 465-DL Information Technology Strategy	1
<i>Total required units:</i>	4

¹ 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"> • Fiction: MCW 413 Studies in Fiction Writing (a.k.a. Fiction Workshop) • Creative Nonfiction: MCW 461 Studies in Writing Creative Nonfiction (a.k.a. Creative Nonfiction Workshop) • Poetry: MCW 411 Studies in Writing Poetry (a.k.a. Poetry Workshop) 	3
One cross-genre course: <ul style="list-style-type: none"> • 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, MCW 490, or other departments of literary study. ¹	2
Three graduate-level elective courses. May not include more than two independent study courses. ²	3
MCW 590 Thesis Research (see the SPS Graduate Handbook for guidelines) ³	1
<i>Total required units:</i>	10

Professional Graduate Series Requirements

All Specializations	Units
Core Courses	
Four sections of MCW 411 Studies in Writing Poetry, 413 Studies in Fiction Writing, or 461 Studies in Writing Creative Nonfiction, depending on genre concentration	4
<i>Total required units:</i>	4

¹ 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 the following School of Continuing Studies master's courses: creative writing (MCW) or literature (LIT).

² 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 the following School of Continuing Studies master's courses: creative writing electives (MCW), literature (LIT), or liberal studies (IPLS).

³ This course is now titled 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"> • Fiction: MCW 413 Studies in Fiction Writing (a.k.a. Fiction Workshop) • Creative Nonfiction: MCW 461 Studies in Writing Creative Nonfiction (a.k.a. Creative Nonfiction Workshop) • Poetry: MCW 411 Studies in Writing Poetry (a.k.a. Poetry Workshop) 	7
One cross-genre course: <ul style="list-style-type: none"> • Fiction: MCW 479 Poetry for Prose Writers • Creative 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: <ul style="list-style-type: none"> • MCW 579 Practicum in Teaching Creative Writing • MCW 575 Journal Publishing 	1
Three graduate-level literature courses. These literature courses may be taken from LIT, ENGLISH, COMP_LIT, or other departments of literary study. ¹ May not include more than one MCW 490.	3
Three graduate-level elective courses. May not include more than two independent study courses. ²	3
MCW 590 Thesis Research (must be registered for twice) (see the SPS Graduate Handbook for guidelines) ³	2
<i>Total required units:</i>	18

¹ 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 the following School of Continuing Studies master's literature courses: literature (LIT).

² 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 the following School of Continuing Studies master's courses: creative writing electives (MCW), literature (LIT), or liberal studies (IPLS).

³ Register for MCW 589 Capstone Preparation and Writing and MCW 590 Capstone Writing and Revision (if MCW 590 Thesis Research is no longer available).

**Liberal Studies
Master of Arts Degree Requirements**

Courses	Units
At least 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	
Graduate-level electives in humanities and related social sciences ¹ ; may be applied toward a specialization (4 courses) in either: American Studies, History, Religious and Ethical Studies, or an individualized specialization	6
IPLS 590 Thesis Research (see the SPS Graduate Handbook for guidelines)	1
<i>Total required units:</i>	9

Professional Graduate Series Requirements

	Units
All Specializations	
Core Courses	
1 section of IPLS 401, 402, or 403	1
Any 3 other IPLS courses	3
<i>Total required units:</i>	4

¹ 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 the following School of Continuing Studies master's courses: literature (LIT) and liberal studies (IPLS).

**Literature
Master of Arts Degree Requirements**

Courses	Units
LIT 410 Introduction to Graduate Study	1
Seven literature courses (400-levels) ¹	7
LIT 590 Thesis Research (see the SPS Graduate Handbook for guidelines)	1
<i>Total required units:</i>	9

Professional Graduate Series Requirements

	Units
All Specializations	
Core Courses	
ENGLISH 410 Introduction to Graduate Study	1
Any other 3 LIT classes	3
<i>Total required units:</i>	4

¹ Students may take up to 3 approved 300-level courses, which must carry graduate credit. Prior approval from the [academic coordinator](#) is required for registration. Prior approval from the [academic coordinator](#) is required for registration in any courses offered by The Graduate School.

**Medical Informatics - On Campus¹
Master of Science Degree Requirements**

Courses	Units
Track Courses (as required upon admission)	0-4
<i>Clinical Track</i>	
CIS 313 Telecommunications & Computer Networks ²	1
CIS 317 Introduction to Databases ³	1
<i>Technologist Entry Path</i>	
MED INF or MHI 401 American Health Care System	1
MED INF or MHI 402 Introduction to Clinical Thinking	1
Core courses (7)	
PUB HLTH 302 Introduction to Biostatistics	1
MED INF or MHI 403 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 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
Other Required Courses (2)	
LEADERS 481 Foundations of Leadership	1
<i>One of the following:</i>	1
MED INF or MHI 498 Capstone Project – or -	
MED INF or MHI 590 Thesis Research (see the SPS Graduate Handbook for guidelines)	
Additional health industry or CIS electives necessary to reach 11 unit requirement	0-2
Total required units:	11⁴-13

¹ No more classes will be offered on-campus for this program. Students should complete this program online.

² Now CIS 413 Telecommunications and Computer Networks

³ Now CIS 417 Database Systems Design and Implementation. From fall 2011, this course is titled CIS 317 'Database Systems Design and Implementation.' All versions of these courses are considered equivalent.

⁴ 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.

Professional Graduate Series

Medical Informatics	Units
any necessary track courses, determined by SPS	0-4
Core Courses	
MED 403 Introduction to Medical Informatics	1
any three MED INF courses ¹ (except 590 ²)	3
<i>Total required units:</i>	4-8

¹ Students may take any courses from the Medical Informatics curriculum with the exception of the capstone to satisfy this requirement.

² Students may not take MED_INF 498 or MED_INF 590 to count towards the Professional Graduate Series.

Medical Informatics - Distance Learning
Master of Science Degree Requirements

Courses	Units
Track Courses (as required upon admission)	0-4
<i>Clinical Track</i>	
CIS 313-DL Telecommunications & Computer Networks ¹	1
CIS 317-DL Introduction to Databases ²	1
<i>Technologist Track</i>	
MED INF or MHI 401-DL American Health Care System	1
MED INF or MHI or MHI 402-DL Introduction to Clinical Thinking	1
Core courses	
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 Biostatistics	1
Other Required Courses	
MED INF -DL Foundations of Leadership ³	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)	
Additional health industry or CIS electives necessary to reach 11 unit requirement	0-2
<i>Total required units:</i>	11⁴-13

¹ Now CIS 413 Telecommunications and Computer Networks

² Now CIS 417 Database Systems Design and Implementation. From fall 2011, this course is titled CIS 317-DL 'Database Systems Design and Implementation.' All versions of these courses are considered equivalent

³ From fall 2011, this course is titled LEADERS 481-DL 'Foundations of Leadership'. Both versions of these courses are considered equivalent.

⁴ 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.

Professional Graduate Series

Medical Informatics	Units
Any necessary track courses, determined by SPS	0-4
Core Courses	
MED 403 Introduction to Medical Informatics	1
Any three MED INF courses ¹ (except 590 ²)	3
<i>Total required units:</i>	4-8

¹ Students may take any courses from the Medical Informatics curriculum with the exception of the capstone to satisfy this requirement.

² Students may not take MED_INF 498 or MED_INF 590 to count towards the Professional Graduate Series.

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

Courses	Units
Core courses (7)	
MPPA 402 Elements of Public Finance & Budgeting	1
MPPA 403 Fundamentals of Public Administration	1
MPPA 405 Elementary Statistics for Political Research (a.k.a. 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
Concentration area courses (choose four electives in one of these areas of concentration)	4
<i>Health Services Policy</i>	
<i>Public Policy</i>	
<i>Public Safety and Security</i>	
<i>Urban Policy and Planning</i>	
Other Required Courses	
MPPA 590 Thesis Research (see the SPS Graduate Handbook for guidelines)	1
LEADERS 481 Foundations of Leadership	1
<i>Total Required Units</i>	13

Professional Graduate Series Requirements

Please note: overlapping courses may count toward one PGS only

	Units
Public Safety and Security	
Core Courses	
MPPA 403 or 407	1
Any three courses from the Public Safety and Security specialization	3
<i>Total required units:</i>	4

Urban Policy and Administration	Units
Core Courses	
MPPA 403 or 407	1
Any four courses from the Urban Policy specialization	3
<i>Total required units:</i>	4

Public Policy and Administration	Units
Core Courses	
MPPA 403 or 407	1
Any three courses from MPPA curriculum	3
<i>Total required units:</i>	4

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

Courses	Units
Core courses (11)	
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 Political Research (a.k.a. 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 ¹	1
MPPA 419-DL Strategic Policy Implementation ²	1
MPPA 452-DL The Global City ³	1
Other Required Courses (2)	
LEADERS 481-DL Foundations of Leadership	1
<i>One of the following:</i>	1
MPPA 498-DL Capstone Project – or -	
MPPA 590-DL Thesis Research (see the SPS Graduate Handbook for guidelines)	
Total Required Units	13

Professional Graduate Series Requirements

Public Policy and Administration	Units
Core Courses	
MPPA 403-DL or 407-DL	1
Any three courses from MPPA-DL curriculum	3
Total required units:	4

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

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

³ 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

Courses	Units
Core Courses	
QARS 401 Regulation and Quality Systems	1
QARS 405 Applied Research and Writing	1
QARS 410 Introduction to Statistical Methods for Regulatory Compliance ¹	1
QARS 420 Practical Laboratory 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
Electives (any two elective QARS or SPS-selected CRRA courses)	2
Other Required Courses	
LEADERS 481 Foundations of Leadership	1
QARS 590 Capstone Project (see the SPS Graduate Handbook for guidelines)	1
Total required units:	11

Professional Graduate Series Requirements

	Units
Quality Assurance and Regulatory Science	
Any five courses from the MQARS curriculum	5
Total required units:	5

¹ CLIN_RES 409 'Introduction to Biostatistics' and MED_INF 409-DL 'Introduction to Biostatistics' both substitute for this requirement.

**Sports Administration
Master of Arts Degree Requirements**

Courses	Units
Core Courses (7)	
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 ¹	1
MSA 405 Legal & Ethical Issues in Sports Management	1
MSA 406 Sports Risk Management (a.k.a. Sports Risk and Crisis Management) ²	1
Concentration area courses (choose two electives in one of these areas of concentration)³	2
<i>Sports Management</i>	
<i>Sports Marketing & Public Relations</i>	
Other Required Courses (2)	
LEADERS 481 Foundations of Leadership	1
MSA 590 Thesis/Capstone ⁴ (see the SPS Graduate Handbook for guidelines)	1
Total required units:	11

Professional Graduate Series Requirements

Please note: overlapping courses may count toward one PGS only

Sports Management	Units
Core Courses	
MSA 400 Sports in the Social Context	1
MSA 401 Sports Research Methods & Quantitative Analysis	1
Any two additional MSA courses	2
Total required units:	4

Sports Marketing and Public Relations	Units
Core Courses	
MSA 400 Sports in the Social Context	1

¹ As of Fall 2014, MSA 404 is titled Sports Business: Finance, Accounting and Economics

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

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

⁴ MSA 498 'Capstone Class' may substitute for this requirement.

MSA 401 Sports Research Methods & Quantitative Analysis	1
MSA 402 Fundamentals of Sports Marketing	1
Any one additional course from the Marketing and PR specialization	1
<i>Total required units:</i>	4