Course Requirements for the Ph.D., M.S., & Certificate Programs in Informatics Information Science Subtrack

**Ph.D. Program**

The Information Science subtrack Ph.D. requires a total of 72 semester hours beyond the bachelor’s degree, with 18 semester hours satisfying the Certificate in Informatics (Information Science).

**Outline for Plan of Study: Ph.D.**

Core Courses (18 semester hours):

- **Introductory Informatics Coursework: (3 s.h.)**
  CS:3110 (22C:104) Introduction to Informatics (3 s.h.)

- **Programming Coursework: (3 s.h.)**
  CS:3210 (22C:109) Programming Languages and Tools (3 s.h.)

- **Data Handling Coursework (PhD & MS require 12 s.h.; Certificate 3 s.h.)**
  - **Text Retrieval** (3 s.h. required)
    MCSI:6800 (06K:278) Web Mining
    CS:4980 (22C:196) Topics in Computer Science (determined on a case-by-case basis. Check with your advisor before registering.)
  - **Data Mining** (3 s.h. required)
    MSCI:6800 (06K:275) Knowledge Discovery (3 s.h.) or
    CS:6412 (22C:142) Knowledge Discovery & Data Mining (3 s.h.)
  - **Databases** (3 s.h. required)**
    SLIS:6100 (021:124) Database Systems (3 s.h.) or
    MSCI:6200 (6K:272) Database Analysis and Design (3 s.h.) or
    CS:4400 (22C:144) Database Systems (3 s.h.)
    Note that MSCI:9230(6K:230) Database Systems is not an option.
  - **Probability & Statistics** (3 s.h.)**
    STAT:3120 (22S:120) Probability and Statistics (3 s.h.)

Additional Data Handling Courses: Please work with your advisor if substituting for above listings.
- SLIS:5200 (021:123) User Education: Multimedia (3 s.h.)
- SLIS:6270 (021:224) Electronic Publishing (3 s.h.)
- SLIS:6140 (021:226) Digital Environments (3 s.h.)
- SLIS:6380 (021:228) Hypertext Systems (3 s.h.)

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SLIS:6160 (21:242) Search and Discovery Systems (3 s.h.)
SLIS:5900 (21:275) Health Informatics I (3 s.h.)
SLIS:5910: 21:280 Health Informatics II (3 s.h.)
SLIS:6490 (021:278) Information Policy (3 s.h.)
CS:4460 (22C:146) Introduction to Computational Linguistics (3 s.h.)
CS:5350 (22C:231) Design and Analysis of Algorithms (3 s.h.)
CS:4980 (22C:196) Topics in Computer Science II (3 s.h.)
6K:190 Network Design & Performance
MSCI:6190/SLIS:6190 (6K:234/21:234) Knowledge Management (3 s.h.)
MSCI:6200 (6K:272) Database Analysis and Design (3 s.h.)
MSCI:6800 (6K:278) Web Mining (3 s.h.)
STAT:3510 (22S:101) Biostatistics (3 s.h.)
STAT:3120 (22S:120) Probability and Statistics (3 s.h.)
STAT:3100 (22S:130) Introduction to Mathematical Statistics I (3 s.h.)
STAT:3101 (22S:131) Introduction to Mathematical Statistics II (3 s.h.)
STAT:3200 (22S:152) Applied Linear Regression (3 s.h.)
STAT:4100 (22S:153) Mathematical Statistics I (3 s.h.)
STAT:4101 (22S:154) Mathematical Statistics II (3 s.h.)
STAT:5200 (22S:164) Applied Statistics I (4 s.h.)
STAT 5300 (22S:166) Computing in Statistics (3 s.h.)

The remaining 54 semester hours of courses will be selected in consultation with the student's advisor to design a balanced program of study relevant to the student's particular information science focus. The Informatics (Information Science) subtrack will maintain an approved list of courses that may be used as a guide. A preliminary list of approved elective courses includes:

Master of Science Program

The M.S. program in the Information Science subtrack requires a completion of a minimum of 32 course semester hours beyond the bachelor's degree with at least 18 of the 32 hours satisfying the requirements of the informatics certificate.

Outline for Plan of Study: M.S.

Students will complete the same 18 semester hours of core courses as for the Ph.D. in Informatics (Information Science). Please see above and note that M.S. students may take MSCI:9230 (6K:230) Database Systems as their database course.

The remaining 14 semester hours may be selected from the list of electives identified under the Ph.D. section or they may be selected from outside this list in consultation with the advisor.

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Certificate in Informatics

The Certificate in Informatics is open to graduate students in good standing who wish to complement their own disciplinary studies with foundational and applied knowledge in information science.

Students must complete a minimum of 18 semester hours for the Certificate. These include 9 semester hours in Foundations of Informatics, and 9 semester hours within Disciplinary Requirements.

Plans for the Certificate in Informatics may not completely substitute for coursework or examinations required within the requirements of the disciplinary degree program.

Note that only 9 semester hours of core coursework (Foundations of Informatics) may be shared between the Certificate and either the M.S. or Ph.D. Informatics (Information Science) plan of study. That is the Certificate requires 9 semester hours of coursework that is not included in either the M.S. or Ph.D. plan of study. This applies to students pursuing the certificate prior to or concurrent with the M.S. or Ph.D. degrees.

Outline for Plan of Study: Certificate

Core Courses on Foundations of Informatics (9 semester hours): Students must complete 3 semester hours in each of areas a, b, and c, below.

a. Introductory Informatics Coursework (3 semester hours)
   - CS:3110 (22C:104) Introduction to Informatics (3 s.h.)

b. Programming Coursework (3 semester hours)
   - CS:3210 (22C:109) Programming Languages and Tools (3 s.h.)

c. Data Handling Coursework (3 semester hours); a list of alternatives is provided below.
   - SLIS:5200 (021:123) User Education: Multimedia (3 s.h.)
   - SLIS:6270 (021:224) Electronic Publishing (3 s.h.)
   - SLIS:6140 (021:226) Digital Environments (3 s.h.)
   - MSCI:XXXX (6K:233/21:230) Text Retrieval (3 s.h.)
   - MSCI:9230 (6K:230) Database Systems (3 s.h.)
   - MSCI:6800 (06K:275) Knowledge Discovery (3 s.h.)
   - MSCI:6200 (6K:272) Database Analysis and Design (3 s.h.)
   - MSCI:6800 (6K:278) Web Mining (3 s.h.)
   - CS:6412 (22C:142) Knowledge Discovery & Data Mining (3 s.h.)
   - CS:4400 (22C:144) Database Systems (3 s.h.)
   - BIOS:5110 (171:161) Introduction to Biostatistics (3 s.h.)
   - STAT:3510 (22S:101) Biostatistics (3 s.h.)
   - STAT:3120 (22S:120) Probability and Statistics (3 s.h.)

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STAT:3100 (22S:130) Introduction to Mathematical Statistics I (3 s.h.)
STAT:3101 (22S:131) Introduction to Mathematical Statistics II (3 s.h.)
STAT:3200 (22S:152) Applied Linear Regression (3 s.h.)
STAT:4100 (22S:153) Mathematical Statistics I (3 s.h.)
STAT:4101 (22S:154) Mathematical Statistics II (3 s.h.)
STAT:5200 (22S:164) Applied Statistics I (4 s.h.)
STAT 5300 (22S:166) Computing in Statistics (3 s.h.)

Disciplinary courses (9 semester hours): these will be determined in consultation with the advisor.