Research Methods and Library Science

Doctor of Philosophy in Research Methods and Statistics
The goal of the Research Methods and Statistics (RMS) PhD Program is to graduate students with the state-of-the-art skills needed to conduct research in education and the social and health sciences. The faculty members equip students with cutting-edge research skills, creative educational vision, social responsibility, and sufficient experience in the application of these skills and knowledge to achieve mastery. The faculty are committed to shaping a safe, sustainable, democratic, and just world and believe that high-quality research is one approach to achieving this goal.

The education and social and health sciences fields have a growing need for professionals with strong skills in research design, statistics, qualitative and mixed methods, and data analysis. The RMS PhD Program provides the courses and experiences necessary to conduct and supervise effective social science research.

Graduates with RMS PhD degrees hold leadership positions in testing and program evaluation companies, universities, school districts, and state agencies, among others.

Doctor of Philosophy in Research Methods and Statistics with a concentration in institutional research
The RMS concentration in Institutional Research is targeted towards professionals with career goals in institutional research in applied settings including higher education, K-12 schools, non-profits, government settings, and business. Foundational coursework will equip Institutional Research students with strong quantitative, qualitative, and mixed research methods skills. Students will specialize in higher education or library and information science and take institutional research content knowledge courses in management, business intelligence, and public policy.

Master of Arts in Research Methods and Statistics
The goal of the Research Methods and Statistics (RMS) MA Program is to enhance the development and use of research in education and the social and health sciences with a specific focus on program evaluation. The faculty equip students with cutting-edge research skills, creative educational vision, social responsibility, and sufficient experience in application of your skills and knowledge to achieve mastery. RMS is committed to shaping a safe, sustainable, democratic and just world and believe that high-quality research is one approach to doing this.

The education and social and health sciences fields have a growing need for professionals with strong skills in research design, statistics, qualitative and mixed methods, and data analysis. The RMS MA Program provides the courses and experiences necessary to conduct effective social science research.

Graduates with RMS MA degrees hold professional positions in program evaluation at non-profit organizations, service agencies, school districts, and state agencies, among others.

Master of Library and Information Science in Library and Information Science
Library and Information Science (LIS) has developed a distinctive program to serve the rapidly changing needs of future librarians, archivists and information professionals in the Rocky Mountain region. There are a number of areas of focus including: Archives and Special Collections, Digital Libraries, Early Childhood Librarianship, Academic Libraries, Public Libraries, School Libraries Concentration, Special Libraries, and Web Services Librarianship.

As a small, face-to-face program, we get to know our students very well and connect them to the highly regarded professional network in the region (and beyond). Practitioners speak highly of our students and are eager to have DU MLIS students as interns and employees.

Program Accreditation
American Library Association

Master of Library and Information Science in Library and Information Science with a concentration in School Libraries
The DU School Libraries/Teacher Librarian (SL) Program is approved by the Colorado Department of Education (CDE). A concentration in School Libraries prepares students to work with children and young adults in K-12 school libraries as well as youth services departments in public libraries. Colorado endorsement as a Teacher-Librarian requires applicants to have a valid teaching credential, one year of classroom teaching and pass
the Place Exam (School Librarian endorsement is available for applicants without classroom teaching experience. Recommendation for the added endorsement as a school librarian is made by the DU LIS Program, but endorsement is granted by the State of Colorado. Individual State requirements vary and may include teaching experience and media examinations in addition to a valid teaching credential. Students should consult with the Colorado Department of Education for the most updated endorsement requirements. Dr. Clara Sitter of the LIS faculty is the primary contact for this specialization.

Program Accreditation
American Library Association
Colorado Department of Education and Colorado Commission of Higher Education

Doctor of Philosophy in Research Methods and Statistics
Following are the simple steps to apply for graduate study in Research Methods and Statistics at the University of Denver. If you have any questions about the process, please contact the Office of Graduate Studies.

Apply Online / Application Deadlines
• Applications for graduate study at the University of Denver must be submitted online.
• All online materials must be received, and all supplemental materials including transcripts must be on file in the Office of Graduate Studies, by the program’s stated deadline: Priority Deadline: December 15, 2015 for Fall 2015 Admit. The program will review well-qualified applicants after the deadline until the remaining space has been filled.
• A $65 non-refundable application fee is required for an application to be processed. Application fee waivers are available for McNair Scholars.

Course and Degree Prerequisites and Requirements
• Applicants must earn and submit proof of earning the equivalent of a baccalaureate degree from a regionally accredited institution prior to beginning graduate coursework at DU. Applicants to the PhD must have an earned master’s degree prior to matriculating into the doctoral program.

Transcripts
• Applicants are required to submit an official transcript from each post-secondary institution they have attended, or are presently attending, where two quarter hours (or one semester hour) or more were completed including study abroad and college coursework completed in high school.
• The applicant is responsible for obtaining all transcripts. Applicants who have earned a degree outside the U.S. must submit transcripts accompanied by certified English translations, if not normally issued in English. DU students and alumni do not need to provide DU transcripts.
• Official study abroad transcripts are required unless the course titles, grades and credit earned abroad appear on another transcript. Transcripts from outside of the U.S. are evaluated by the Office of International Student Admission. This process can take three to four weeks and must be complete by the program’s stated deadline. Therefore, applicants with a degree from outside of the U.S. are encouraged to apply early. Applicants educated outside the U.S. are encouraged to contact the Office of Graduate Studies for assistance regarding transcript-related materials.
• The University of Denver will consider electronic transcripts official from a domestic institution provided by the following approved agencies: Army/American Council on Education Registry Transcript System (AARTS); Docufide/Parchment; National Student Clearinghouse; Naviance; Royall and Company; and, Scrip-Safe.
• Mail official transcripts to:

  University of Denver  
  Office of Graduate Studies  
  Mary Reed Building, Room 5  
  2199 S. University Blvd.  
  Denver, CO 80208-4802

• Electronic transcripts should be sent to gradinfo@du.edu.

Language Proficiency
• Official scores from the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS) are required of all graduate applicants, regardless of citizenship status, whose native language is not English or who have been educated in countries where English is not the native language. Applications will not be processed until the required TOEFL or IELTS score is received. The TOEFL and IELTS scores are valid for two years from the test date. The minimum TOEFL score accepted by the University is 80 (iBT) or 550 (paper-based). The institution code for the University of Denver is 4842. The minimum IELTS score accepted by the University is 6.0. Graduate Teaching Assistants (GTAs) must demonstrate fluency in spoken English by scoring a 26 on the TOEFL speaking section or 8.0 on the IELTS speaking section. Please see the Graduate Policy Manual for complete English language proficiency requirements.
• Applicants may be exempted from English proficiency test requirements if by the time of matriculation they have earned a post-secondary degree from a formally-recognized/accredited university where the language of instruction and examination is English. Such applicants may be exempt from the TOEFL/IELTS requirement but not from other standardized graduate entrance examinations. There are no exemptions for graduate teaching assistants.

• Students whose native language is not English and who are required to submit TOEFL/IELTS scores will be assessed by the University of Denver Language Center (ELC) prior to matriculation.

Test Scores
• The Graduate Record Exam (GRE) is required. Additionally, RMS will accept any standardized testing scores (i.e. GMAT, MCAT, MAT, etc.) Scores must be received directly from the appropriate testing agency by the program’s stated deadline. DU’s ETS Institution Code is 4842.

Statement of Professional Goals
• A statement is required and should be submitted via upload through the online application process.

Resume / C.V.
• A resume or C.V. is required. This should include work experience, research, and/or volunteer work. The resume should be submitted via upload through the online application process.

Recommendation Letters
• Two letters of recommendation are required. Letters should be solicited and uploaded by recommenders through the online application system. Requests for letters should be sent to recommenders well in advance so the letters are on file by the application deadline.

Financial Support
• To be considered for financial support, domestic applicants should apply early and submit the Free Application for Federal Student Aid (FAFSA) by the priority deadline; February 15. Information about financial aid can be found on the Office of Financial Aid Website. International students are not eligible for federal financial aid.

Application Status
• We encourage you to be actively engaged in the admission process. You can check your application status online at PioneerWeb. Applicants will receive login information post application submission.

Contact Information
• Mail official transcripts and any supplemental admission materials not submitted with the online application to:

  University of Denver
  Office of Graduate Studies
  Mary Reed Building, Room 5
  2199 S. University Blvd.
  Denver, CO 80208-4802

  • Electronic transcripts should be sent to gradinfo@du.edu.
  • For more information call (303) 871-2706

International Applicants
• For complete international applicant information, please visit the Office of Graduate Studies International Student Application Information. International applicants are strongly encouraged to have their applications complete, with all materials on file in the admission office, at least eight weeks prior to the program’s application deadline.

The Graduate Policies and Procedures provides complete details regarding admission requirements.

Master of Arts in Research Methods and Statistics
Following are the simple steps to apply for the Master of Arts in Research Methods and Statistics at the University of Denver. If you have any questions about the process, please contact the Office of Graduate Studies.

Apply Online / Application Deadlines
• Applications for graduate study at the University of Denver must be submitted online.

• All online materials must be received, and all supplemental materials including transcripts must be on file in the Office of Graduate Studies, by the program’s stated deadline: Priority Deadline: January 16, 2015 for Fall 2015 Admit. The program will review well-qualified applicants after the deadline until the remaining space has been filled.

• A $65 non-refundable application fee is required for an application to be processed. Application fee waivers are available for McNair Scholars.
Research Methods and Library Science

Course and Degree Prerequisites and Requirements

• Applicants must earn and submit proof of earning the equivalent of a baccalaureate degree from a regionally accredited institution prior to beginning graduate coursework at DU.

Transcripts

• Applicants are required to submit an official transcript from each post-secondary institution they have attended, or are presently attending, where two quarter hours (or one semester hour) or more were completed including study abroad and college coursework completed in high school.

• The applicant is responsible for obtaining all transcripts. Applicants who have earned a degree outside the U.S. must submit transcripts accompanied by certified English translations, if not normally issued in English. DU students and alumni do not need to provide DU transcripts.

• Official study abroad transcripts are required unless the course titles, grades and credit earned abroad appear on another transcript. Transcripts from outside of the U.S. are evaluated by the Office of International Student Admission. This process can take three to four weeks and must be complete by the program’s stated deadline. Therefore, applicants with a degree from outside of the U.S. are encouraged to apply early.

• Official study abroad transcripts are required unless the course titles, grades and credit earned abroad appear on another transcript. Transcripts from outside of the U.S. are evaluated by the Office of International Student Admission. This process can take three to four weeks and must be complete by the program’s stated deadline. Therefore, applicants with a degree from outside of the U.S. are encouraged to apply early.

• Applicants educated outside the U.S. are encouraged to contact the Office of Graduate Studies for assistance regarding transcript-related materials.

• The University of Denver will consider electronic transcripts official from a domestic institution provided by the following approved agencies: Army/American Council on Education Registry Transcript System (AARTS); Docufide/Parchment; National Student Clearinghouse; Naviance; Royall and Company; and, Scrip-Safe.

• Mail official transcripts to:
  University of Denver
  Office of Graduate Studies
  Mary Reed Building, Room 5
  2199 S. University Blvd.
  Denver, CO 80208-4802

• Electronic transcripts should be sent to gradinfo@du.edu

Language Proficiency

• Official scores from the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS) are required of all graduate applicants, regardless of citizenship status, whose native language is not English or who have been educated in countries where English is not the native language. Applications will not be processed until the required TOEFL or IELTS score is received. The TOEFL and IELTS scores are valid for two years from the test date. The minimum TOEFL score accepted by the University is 80 (iBT) or 550 (paper-based). The institution code for the University of Denver is 4842. The minimum IELTS score accepted by the University is 6.0. Graduate Teaching Assistants (GTAs) must demonstrate fluency in spoken English by scoring a 26 on the TOEFL speaking section or 8.0 on the IELTS speaking section. Please see the Graduate Policy Manual for complete English language proficiency requirements.

• Applicants may be exempted from English proficiency test requirements if by the time of matriculation they have earned a post-secondary degree from a formally-recognized/accredited university where the language of instruction and examination is English. Such applicants may be exempt from the TOEFL/IELTS requirement but not from other standardized graduate entrance examinations. There are no exemptions for graduate teaching assistants.

• Students whose native language is not English and who are required to submit TOEFL/IELTS scores will be assessed by the University of Denver English Language Center (ELC) prior to matriculation.

Test Scores

• The Graduate Record Exam (GRE) is required. Additionally, RMS will accept any standardized testing scores (i.e. GMAT, MCAT, MAT, etc.) Scores must be received directly from the appropriate testing agency by the program’s stated deadline. DU’s ETS Institution Code is 4842.

Statement of Professional Goals

• A statement is required and should be submitted via upload through the online application process.

Resume / C.V.

• A resume or C.V. is required. This should include work experience, research, and/or volunteer work. The resume should be submitted via upload through the online application process.

Recommendation Letters

• Two letters of recommendation are required. Letters should be solicited and uploaded by recommenders through the online application system. Requests for letters should be sent to recommenders well in advance so the letters are on file by the application deadline.
Financial Support

• To be considered for financial support, domestic applicants should apply early and submit the Free Application for Federal Student Aid (FAFSA) by the priority deadline; February 15. Information about financial aid can be found on the Office of Financial Aid Website. International students are not eligible for federal financial aid.

Application Status

• We encourage you to be actively engaged in the admission process. You can check your application status online at PioneerWeb. Applicants will receive login information post application submission.

Contact Information

• Mail official transcripts and any supplemental admission materials not submitted with the online application to:

  University of Denver
  Office of Graduate Studies
  Mary Reed Building, Room 5
  2199 S. University Blvd.
  Denver, CO 80208-4802

  Electronic transcripts should be sent to gradinfo@du.edu

  For more information call (303) 871-2706.

International Applicants

• For complete international applicant information, please visit the Office of Graduate Studies International Student Application Information. International applicants are strongly encouraged to have their applications complete, with all materials on file in the admission office, at least eight weeks prior to the program’s application deadline.

The Graduate Policies and Procedures provides complete details regarding admission requirements.

Master of Library Science in Library and Information Science, master of library science in library and information science with a concentration in school library

Following are the simple steps to apply for graduate study in Library and Information Science at the University of Denver. If you have any questions about the process, please contact the Office of Graduate Studies.

Apply Online / Application Deadlines

• Applications for graduate study at the University of Denver must be submitted online.

• All online materials must be received, and all supplemental materials including transcripts must be on file in the Office of Graduate Studies, by the program’s stated deadline: Priority Deadline: January 16, 2015 for Fall 2015 Admit. The program will review well-qualified applicants after the deadline until the remaining space has been filled.

• A $65 non-refundable application fee is required for an application to be processed. Application fee waivers are available for McNair Scholars.

Course and Degree Prerequisites and Requirements

• Applicants must earn and submit proof of earning the equivalent of a baccalaureate degree from a regionally accredited institution prior to beginning graduate coursework at DU.

Transcripts

• Applicants are required to submit an official transcript from each post-secondary institution they have attended, or are presently attending, where two quarter hours (or one semester hour) or more were completed including study abroad and college coursework completed in high school.

• The applicant is responsible for obtaining all transcripts. Applicants who have earned a degree outside the U.S. must submit transcripts accompanied by certified English translations, if not normally issued in English. DU students and alumni do not need to provide DU transcripts.

• Official study abroad transcripts are required unless the course titles, grades and credit earned abroad appear on another transcript. Transcripts from outside of the U.S. are evaluated by the Office of International Student Admission. This process can take three to four weeks and must be complete by the program’s stated deadline. Therefore, applicants with a degree from outside of the U.S. are encouraged to apply early. Applicants educated outside the U.S. are encouraged to contact the Office of Graduate Studies for assistance regarding transcript-related materials.

• The University of Denver will consider electronic transcripts official from a domestic institution provided by the following approved agencies: Army/American Council on Education Registry Transcript System (AARTS); Docufide/Parchment; National Student Clearinghouse; Naviance; Royall and Company; and, Scrip-Safe.
• Mail official transcripts to:

University of Denver
Office of Graduate Studies
Mary Reed Building, Room 5
2199 S. University Blvd.
Denver, CO 80208-4802

• Electronic transcripts should be sent to gradinfo@du.edu

Language Proficiency

• Official scores from the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS) are required of all graduate applicants, regardless of citizenship status, whose native language is not English or who have been educated in countries where English is not the native language. Applications will not be processed until the required TOEFL or IELTS score is received. The TOEFL and IELTS scores are valid for two years from the test date. The minimum TOEFL score accepted by the University is 80 (iBT) or 550 (paper-based). The institution code for the University of Denver is 4842. The minimum IELTS score accepted by the University is 6.0. Graduate Teaching Assistants (GTAs) must demonstrate fluency in spoken English by scoring a 26 on the TOEFL speaking section or 8.0 on the IELTS speaking section. Please see the Graduate Policy Manual for complete English language proficiency requirements.

• Applicants may be exempted from English proficiency test requirements if by the time of matriculation they have earned a post-secondary degree from a formally-recognized/accredited university where the language of instruction and examination is English. Such applicants may be exempt from the TOEFL/IELTS requirement but not from other standardized graduate entrance examinations. There are no exemptions for graduate teaching assistants.

• Students whose native language is not English and who are required to submit TOEFL/IELTS scores will be assessed by the University of Denver English Language Center (ELC) prior to matriculation.

Test Scores

• The Graduate Record Examination (GRE) is not required.

Statement of Professional Goals

• A statement is required and should be submitted via upload through the online application process.

Resume / C.V.

• A resume or C.V. is required. This should include work experience, research, and/or volunteer work. The resume should be submitted via upload through the online application process.

Recommendation Letters

• Two letters of recommendation are required. Letters should be solicited and uploaded by recommenders through the online application system. Requests for letters should be sent to recommenders well in advance so the letters are on file by the application deadline.

Financial Support

• To be considered for financial support, domestic applicants should apply early and submit the Free Application for Federal Student Aid (FAFSA) by the priority deadline; February 15. Information about financial aid can be found on the Office of Financial Aid Website. International students are not eligible for federal financial aid.

Application Status

• We encourage you to be actively engaged in the admission process. You can check your application status online at PioneerWeb. Applicants will receive login information post application submission.

Contact Information

• Mail official transcripts and any supplemental admission materials not submitted with the online application to:

University of Denver
Office of Graduate Studies
Mary Reed Building, Room 5
2199 S. University Blvd.
Denver, CO 80208-4802

• Electronic transcripts should be sent to gradinfo@du.edu

• For more information call (303) 871-2706

International Applicants

• For complete international applicant information, please visit the Office of Graduate Studies International Student Application Information. International applicants are strongly encouraged to have their applications complete, with all materials on file in the admission office, at least eight weeks prior to the program's application deadline.
The Graduate Policies and Procedures provides complete details regarding admission requirements.

Doctor of Philosophy in Research Methods and Statistics

I. Morgridge College of Education requirements
A. Research
Complete all of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMS 4930</td>
<td>Empirical Research Methods</td>
</tr>
<tr>
<td>RMS 4941</td>
<td>Introduction to Qualitative Research</td>
</tr>
<tr>
<td>RMS 5995</td>
<td>Independent Research (Minimum 10 credits, must register for at least 1 hr per Fall, Winter &amp; Spring after most coursework is completed until Graduation)</td>
</tr>
</tbody>
</table>

II. Program requirements
A. Measurement
Complete all of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMS 4921</td>
<td>Psychometric Theory</td>
</tr>
<tr>
<td>RMS 4922</td>
<td>Item Response Theory</td>
</tr>
<tr>
<td>RMS 4932</td>
<td>Meta-Analysis Social Science Research</td>
</tr>
</tbody>
</table>

B. Research Methods
Complete all of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMS 4942</td>
<td>Qualitative Data Collection and Analysis</td>
</tr>
<tr>
<td>RMS 4960</td>
<td>Program Evaluation Theory</td>
</tr>
<tr>
<td>RMS 4951</td>
<td>Mixed Method Research Design</td>
</tr>
<tr>
<td>RMS 4952</td>
<td>Research Ethics</td>
</tr>
<tr>
<td>RMS 4940</td>
<td>Structural Foundations of Research in Social Sciences</td>
</tr>
</tbody>
</table>

Select at least one of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMS 4959</td>
<td>Topics in Research Design</td>
</tr>
<tr>
<td>RMS 4947</td>
<td>Arts-Based Research</td>
</tr>
<tr>
<td>RMS 4946</td>
<td>Advanced Qualitative Research</td>
</tr>
<tr>
<td>RMS 4931</td>
<td>Survey and Design Analysis</td>
</tr>
<tr>
<td>RMS 4945</td>
<td>Community-Based Research</td>
</tr>
</tbody>
</table>

C. Statistics
Complete all of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMS 4911</td>
<td>Correlation and Regression</td>
</tr>
<tr>
<td>or PSYC 4300</td>
<td>Correlation and Regression</td>
</tr>
<tr>
<td>RMS 4912</td>
<td>Analysis of Variance</td>
</tr>
<tr>
<td>or PSYC 4330</td>
<td>Analysis of Variance</td>
</tr>
<tr>
<td>RMS 4913</td>
<td>Multivariate Analysis</td>
</tr>
<tr>
<td>RMS 4915</td>
<td>Hierarchical Linear Modeling</td>
</tr>
<tr>
<td>RMS 4914</td>
<td>Structural Equation Modeling</td>
</tr>
<tr>
<td>or PSYC 4350</td>
<td>Structural Equation Modeling for the Social Sciences</td>
</tr>
<tr>
<td>RMS 4916</td>
<td>Latent Growth Curve Modeling</td>
</tr>
<tr>
<td>RMS 4919</td>
<td>Topics in Statistics</td>
</tr>
</tbody>
</table>

III. Practicum
Complete the following course:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMS 4980</td>
<td>Practicum in Research</td>
</tr>
</tbody>
</table>

IV. Cognate (Minimum 20 credit hours)
Total Credits

90

A minimum of 90 credit hours is required beyond the earned master’s degree. No credit hours from the earned master’s degree can be transferred into the PhD.

Non-coursework requirements
- Doctoral comprehensive exam
Doctor of Philosophy in Research Methods and Statistics with a concentration in institutional research

I. Morningside College of Education requirements
A. Research

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMS 4910</td>
<td>Introductory Statistics</td>
</tr>
<tr>
<td>RMS 4930</td>
<td>Empirical Research Methods</td>
</tr>
<tr>
<td>RMS 4941</td>
<td>Introduction to Qualitative Research</td>
</tr>
<tr>
<td>RMS 5995</td>
<td>Independent Research (Minimum 10 credits, must register for at least 1 hr per Fall, Winter &amp; Spring after most coursework is completed until Graduation)</td>
</tr>
</tbody>
</table>

II. Program requirements
A. Management

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT 4280</td>
<td>Business Design</td>
</tr>
<tr>
<td>MGMT 4345</td>
<td>Performance &amp; Rewards System</td>
</tr>
<tr>
<td>MGMT 4620</td>
<td>Organizational Dynamics</td>
</tr>
<tr>
<td>MGMT 4630</td>
<td>Strategic Human Resources Management</td>
</tr>
<tr>
<td>MGMT 4690</td>
<td>Strategic Management</td>
</tr>
<tr>
<td>MGMT 4790</td>
<td>Managing Strategic Alliances</td>
</tr>
</tbody>
</table>

B. Measurement

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMS 4921</td>
<td>Psychometric Theory</td>
</tr>
<tr>
<td>RMS 4922</td>
<td>Item Response Theory ¹</td>
</tr>
<tr>
<td>RMS 4932</td>
<td>Meta-Analysis Social Science Research</td>
</tr>
</tbody>
</table>

C. Research Methods

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMS 4931</td>
<td>Survey and Design Analysis</td>
</tr>
<tr>
<td>RMS 4951</td>
<td>Mixed Method Research Design</td>
</tr>
<tr>
<td>RMS 4952</td>
<td>Research Ethics</td>
</tr>
<tr>
<td>RMS 4960</td>
<td>Program Evaluation Theory</td>
</tr>
<tr>
<td>RMS 4940</td>
<td>Structural Foundations of Research in Social Sciences ¹</td>
</tr>
<tr>
<td>RMS 4942</td>
<td>Qualitative Data Collection and Analysis ¹</td>
</tr>
<tr>
<td>RMS 4945</td>
<td>Community-Based Research ¹</td>
</tr>
<tr>
<td>RMS 4946</td>
<td>Advanced Qualitative Research ¹</td>
</tr>
<tr>
<td>RMS 4947</td>
<td>Arts-Based Research ¹</td>
</tr>
<tr>
<td>RMS 4959</td>
<td>Topics in Research Design ¹</td>
</tr>
</tbody>
</table>

D. Statistics

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMS 4911</td>
<td>Correlation and Regression</td>
</tr>
<tr>
<td>RMS 4912</td>
<td>Analysis of Variance</td>
</tr>
<tr>
<td>RMS 4913</td>
<td>Multivariate Analysis</td>
</tr>
<tr>
<td>RMS 4915</td>
<td>Hierarchical Linear Modeling</td>
</tr>
<tr>
<td>RMS 4914</td>
<td>Structural Equation Modeling</td>
</tr>
<tr>
<td>or PSYC 4350</td>
<td>Structural Equation Modeling for the Social Sciences</td>
</tr>
<tr>
<td>RMS 4916</td>
<td>Latent Growth Curve Modeling</td>
</tr>
</tbody>
</table>

III. Practicum

Complete the following course:
IV. Cognate credits - Specialization Area

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFO 4100</td>
<td>Business Intelligence, Data Warehousing, Corporate Decision Making and Leadership</td>
<td>4</td>
</tr>
<tr>
<td>INFO 4240</td>
<td>Data Warehousing</td>
<td>4</td>
</tr>
<tr>
<td>INFO 4280</td>
<td>Project Management</td>
<td>4</td>
</tr>
<tr>
<td>INFO 4300</td>
<td>Predictive Analytics</td>
<td>4</td>
</tr>
<tr>
<td>GEOG 3110</td>
<td>GIS Modeling</td>
<td>4</td>
</tr>
<tr>
<td>GEOG 3130</td>
<td>Advanced Geographic Information Systems</td>
<td>4</td>
</tr>
</tbody>
</table>

Business Information & Analytics/GIS Courses (choose at least one)

Public Policy Courses (choose at least one)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPOL 4100</td>
<td>American Public Policy System</td>
<td>4</td>
</tr>
<tr>
<td>PPOL 4200</td>
<td>Microeconomics for Public Pol.</td>
<td>4</td>
</tr>
<tr>
<td>PPOL 4300</td>
<td>Quantitative Analysis-Pub Pol</td>
<td>4</td>
</tr>
<tr>
<td>PPOL 4400</td>
<td>Analytical &amp; Critical Skills</td>
<td>4</td>
</tr>
<tr>
<td>PPOL 4501</td>
<td>Great Issues Forum</td>
<td>2</td>
</tr>
<tr>
<td>PPOL 4502</td>
<td>Issues Forum II</td>
<td>2</td>
</tr>
</tbody>
</table>

Specialization Area Courses (Choose one option below; Higher Education <or> Library and Information Science)

Specialization in Higher Education (21 credits minimum)

The following courses are required:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HED 4220</td>
<td>Org &amp; Governance of Higher Ed</td>
<td>3</td>
</tr>
<tr>
<td>HED 4212</td>
<td>Public Policy in Higher Educ</td>
<td>3</td>
</tr>
<tr>
<td>HED 4221</td>
<td>Financing Higher Education</td>
<td>3</td>
</tr>
<tr>
<td>HED 4214</td>
<td>History American Higher Ed</td>
<td>3</td>
</tr>
<tr>
<td>HED 4211</td>
<td>Current Issues in Higher Ed</td>
<td>3</td>
</tr>
<tr>
<td>HED 4284</td>
<td>Inclusive Excellence in Organizations</td>
<td>3</td>
</tr>
<tr>
<td>HED 4246</td>
<td>Issues of Access &amp; Opportunity</td>
<td>3</td>
</tr>
<tr>
<td>HED 4247</td>
<td>Retention, Persistence, and Student Success in Postsecondary Settings</td>
<td>3</td>
</tr>
</tbody>
</table>

Specialization in Library and Information Science (19 credits minimum)

The following courses are required:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIS 4010</td>
<td>Organization of Information</td>
<td>4</td>
</tr>
<tr>
<td>LIS 4820</td>
<td>Digitization</td>
<td>3</td>
</tr>
<tr>
<td>LIS 4404</td>
<td>Metadata Architectures</td>
<td>3</td>
</tr>
<tr>
<td>LIS 4206</td>
<td>Web Content Management</td>
<td>3</td>
</tr>
<tr>
<td>LIS 4362</td>
<td>Government Publications Resources</td>
<td>2</td>
</tr>
<tr>
<td>LIS 4700</td>
<td>Topics in LIS (Academic Libraries)</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits 90

Optional

A minimum of 90 credit hours is required beyond the earned master’s degree. No credit hours from the earned master’s degree can be transferred into the PhD.

Non-coursework requirements

- Doctoral comprehensive exam
- Dissertation

Master of Arts in Research Methods and Statistics

I. Morgridge College of Education requirement

Complete the following course:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMS 4921</td>
<td>Psychometric Theory</td>
<td>3</td>
</tr>
<tr>
<td>or RMS 4920</td>
<td>Educational Measurement</td>
<td>3</td>
</tr>
</tbody>
</table>

II. Program requirements

A. Research Design 14
Complete all of the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMS 4930</td>
<td>Empirical Research Methods</td>
</tr>
<tr>
<td>RMS 4931</td>
<td>Survey and Design Analysis</td>
</tr>
<tr>
<td>RMS 4932</td>
<td>Meta-Analysis Social Science Research</td>
</tr>
<tr>
<td>RMS 4941</td>
<td>Introduction to Qualitative Research</td>
</tr>
<tr>
<td>RMS 4952</td>
<td>Research Ethics</td>
</tr>
</tbody>
</table>

B. Statistics 9

Complete both of the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMS 4910</td>
<td>Introductory Statistics</td>
</tr>
<tr>
<td>RMS 4911</td>
<td>Correlation and Regression</td>
</tr>
<tr>
<td>or PSYC 4300</td>
<td>Correlation and Regression</td>
</tr>
</tbody>
</table>

C. Evaluation 6

Complete the following course:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMS 4960</td>
<td>Program Evaluation Theory</td>
</tr>
</tbody>
</table>

Select one of the following:

- CFSP 4363  Child, Family, School Psychology Program Development and Evaluation
- INTS 4333  International Project Analysis
- PPOL 4500  Cost-Benefit Analysis/Pub Pol
- ADMN 4820  School Administration: Program and Evaluation
- CNP 4730  Counseling Psychology Program Development and Evaluation
- RMS 4962  Program Development and Assessment

D. Practicum 3

Complete the following course:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMS 4980</td>
<td>Practicum in Research</td>
</tr>
</tbody>
</table>

E. Cognate requirements 5-10

Complete a minimum of 5 credits

III. Thesis Option (10 credits minimum)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMS 4995</td>
<td>Independent Research</td>
</tr>
</tbody>
</table>

Total Credits 45 (50 for Thesis Option)

Minimum number of credits required for degree: 45 credits

Non-coursework Requirements

- Practicum
- MA comprehensive exam or Thesis

Master of Library and information Science in Library and Information Science

LIS CORE and REQUIRED COURSES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIS 4000</td>
<td>Foundations of Library, Archival, and Information Science</td>
<td>4</td>
</tr>
<tr>
<td>LIS 4010</td>
<td>Organization of Information</td>
<td>4</td>
</tr>
<tr>
<td>LIS 4015</td>
<td>User and Access Services</td>
<td>4</td>
</tr>
<tr>
<td>LIS 4040</td>
<td>Management of Information Organizations</td>
<td>4</td>
</tr>
<tr>
<td>LIS 4050</td>
<td>Library and Information Technologies</td>
<td>4</td>
</tr>
<tr>
<td>RMS 4900</td>
<td>Education Research and Measurement</td>
<td>4</td>
</tr>
<tr>
<td>LIS 4910</td>
<td>Practicum Experience</td>
<td>4</td>
</tr>
<tr>
<td>or LIS 4901</td>
<td>Capstone Course</td>
<td></td>
</tr>
</tbody>
</table>

Elective requirements

30 Elective credits

Total Credits 58
Non-coursework Requirements

- Portfolio

**Master of Library and information Science in Library and Information Science with a Concentration in School Libraries**

**LIS CORE and REQUIRED COURSES**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIS 4000</td>
<td>Foundations of Library, Archival, and Information Science</td>
<td>4</td>
</tr>
<tr>
<td>LIS 4010</td>
<td>Organization of Information</td>
<td>4</td>
</tr>
<tr>
<td>LIS 4015</td>
<td>User and Access Services</td>
<td>4</td>
</tr>
<tr>
<td>LIS 4040</td>
<td>Management of Information Organizations</td>
<td>4</td>
</tr>
<tr>
<td>LIS 4050</td>
<td>Library and Information Technologies</td>
<td>4</td>
</tr>
<tr>
<td>RMS 4900</td>
<td>Education Research and Measurement</td>
<td>4</td>
</tr>
<tr>
<td>LIS 4911</td>
<td>Elementary School Practicum</td>
<td>4</td>
</tr>
<tr>
<td>&amp; LIS 4912</td>
<td>Secondary School Practicum</td>
<td></td>
</tr>
</tbody>
</table>

**Concentration requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIS 4060</td>
<td>Reference</td>
<td>3</td>
</tr>
<tr>
<td>LIS 4070</td>
<td>Cataloging &amp; Classification</td>
<td>3</td>
</tr>
<tr>
<td>LIS 4321</td>
<td>Collection Management</td>
<td>3</td>
</tr>
<tr>
<td>LIS 4510</td>
<td>Children's Materials and Services</td>
<td>3</td>
</tr>
<tr>
<td>LIS 4520</td>
<td>Young Adult Materials &amp; Services</td>
<td>3</td>
</tr>
<tr>
<td>LIS 4700</td>
<td>Topics in LIS (School Libraries)</td>
<td>2</td>
</tr>
<tr>
<td>LIS 4508</td>
<td>Early Childhood Materials and Services 1</td>
<td>3</td>
</tr>
<tr>
<td>or LIS 4350</td>
<td>Adult Materials &amp; Services</td>
<td></td>
</tr>
</tbody>
</table>

**Elective requirements**

- 10 Elective credits

**Total Credits**

58

1 Or another literacy or literature class as approved by your advisor.

**Non-coursework Requirements**

- Portfolio

**Library Information Science Courses**

**LIS 4000 Foundations of Library, Archival, and Information Science (4 Credits)**

An overview of the theoretical and conceptual foundations of library, archival, and information sciences and an introduction to the information professions, including principles, values, professional organizations, publications, current and future challenges.

**LIS 4010 Organization of Information (4 Credits)**

This course introduces basic concepts in the theoretical, practical, and technological aspects of information organization. It provides an overview of the methodologies for organizing and representing information resources in the library, archives, and museum settings.

**LIS 4011 Information Access & Retrieval (3 Credits)**

Information retrieval is defined as the process of searching for (and retrieving) relevant information within a document collection. The document collection could be textual (bibliographic records), structured and unstructured data, library databases, web based information resources, multimedia resources, and numerical data. This course introduces students to important access and retrieval tools and technologies used to retrieve information that are relevant to a user's information need. In addition to the underlying principles and processes revolving around access and retrieval such as text operations, indexing, query languages, and searching, the course covers relevant topics such as library discovery systems, web based information retrieval technologies, and enterprise search systems.

**LIS 4015 User and Access Services (4 Credits)**

Overview of human information processing and user services in the changing information environment and different communities of practice. This course introduces the concepts of user information needs, seeking, and processing as a foundation for understanding users and designing user-centered information services. The course examines both traditional reference and current/emerging information services in different settings and populations. Course also introduces the concepts of information literacy, user education, and assessment of information services. Recommend prerequisite: LIS 4015.

**LIS 4040 Management of Information Organizations (4 Credits)**

An introduction to current theory and practice of management in information organizations through the study of organizations, communications, decision making, planning, leadership, human resources and budgeting. Prerequisite: LIS 4000 or instructor approval.
LIS 4050 Library and Information Technologies (4 Credits)
A foundation course on the applications of information and communications technology in libraries and information agencies. Integrated library systems and the acquisition, evaluation, and implementation of library automation solutions, including electronic resource management systems are explored. The course further introduces database design, Internet technology, web services, cloud computing, computer networks, telecommunications, and computer security. Hardware, software, and other productivity tools and utilities from organizations such as OCLC, Amazon, and Google are discussed.

LIS 4060 Reference (3 Credits)
Information resources include a number of different kinds of reference materials in a wide variety of formats. These include guidebooks, encyclopedias and dictionaries, indexes and abstracts, handbooks, bibliographies, biographical finding tools and biographies, data sets and much more. Many of these resources are available on-line, as well as in print and other digital formats. This course will help students identify and evaluate the most likely resources for information queries in particular settings. It will also provide the opportunity to find answers to real research questions. The course will cover the primary resources for the broad disciplines of business, humanities, sciences, social sciences and government publications in print and electronic formats. Class exercises will reflect the multidisciplinary and multicultural interests and characteristics of library users. Prerequisite: LIS 4015. Recommended prerequisites: LIS 4000 and LIS 4011.

LIS 4070 Cataloging & Classification (3 Credits)

LIS 4110 Teaching and Learning with Technology (3 Credits)
A foundation course about the science of effective teaching and the role of technology and media to enhance learning outcomes. This course engages students with skills and knowledge required to incorporate effective media and technology to support the teaching and learning activity. The course primarily explores a wide-range of appropriate educational media and technology that facilitate preparation, presentation, and delivery of content. Most importantly, tools and educational technologies that promote best practices in both classroom interaction and expanding the learningscape outside the classroom are explored. Theories, principles, and strategies supported by the science of learning to improve the learning outcome are discussed.

LIS 4206 Web Content Management (3 Credits)
This course will include instruction in web page creation, selection, and evaluation of web content as well as web site management. Selection of web page content will be discussed in the context of organizational knowledge management and competitive intelligence needs. Differences in information needs for provision of public information and competitive intelligence on Internet pages versus the organizational information needs of Intranets in knowledge management will be explored. This course also will address human-computer interface design to allow web page designers to create effective web pages according to established principles of design.

LIS 4208 Usability (3 Credits)
This course provides an overview of usability analysis and user experience research and introduces students to practical methods and techniques in conduction usability evaluation. The focus of the course will be on the selection of appropriate evaluation methods, as well as planning, designing, and conducting usability evaluations of information services. In addition, the course will discuss the methods and tools of user-experience research, the theoretical underpinnings of usability, and the role of usability in iterative design and the development of information systems.

LIS 4209 Information Architecture (3 Credits)
The web is a complex information environment consisting of billions of web pages, users, and clicks and interaction every single day. This course introduces students to the fundamentals of web information architecture (IA) - a discipline that aims to understand the information needs and activities of web visitors and create design elements to help users find their way around in the complex information environment with ease. The course will cover various strategies and skills, in which information architects structure, organize, label, navigate, and search for information on large websites. A service learning component is built into this course so that students can transfer their IA knowledge and skills to a real-world project. The course is designed following a project management approach and students will be exposed to different activities from start to finish.

LIS 4320 Outreach (3 Credits)
Outreach as a library service is evolving at a rapid pace. This course will examine the history, current practice, and future promise of outreach across all kind of library organizational settings. Topics addressed in this course will include competencies for outreach librarianship; practices in outreach services; definition and scope; planning, designing and budgeting for services; environmental scanning, key performance indicators, and barriers; developing and maintaining partnerships.

LIS 4321 Collection Management (3 Credits)
Topics addressed in this course include collection development and access policies, selection methods and practices, collection assessment, preservation and conservation, de-selection, treatment of rare material, manuscripts and archives, U.S. government publications, non-book and digital formats management, juvenile, and other special materials.

LIS 4330 Library Instruction (3 Credits)
This course provides an introduction to the principles of library instruction and information literacy including a historical overview of their place within the profession. Emphasis is on instruction within an academic setting, but students will learn important educational theories that can be applied to a variety of settings. ACRL and AASL standards will be examined as well as types of instruction, instructional design, collaboration with faculty, various competencies, assessment, and lifelong learning. The class has a strong emphasis on public speaking, communication skills, and the practical application of educational theory.
LIS 4508 Early Childhood Materials and Services (3 Credits)
This course prepares librarians to work with infants, toddlers and preschoolers, from birth to age five, and their parents and caregivers, in libraries and pre-school settings. Topics include child development, picture books, materials selection, collection development (print and non-print), programming, story time techniques and promotion. Skills for incorporating early literacy information into early childhood programs and services using “Every Child Ready to Read” methods are introduced and appropriate materials to teach and model the skills are emphasized. Students practice story time techniques and methods for engaging children and adults in pre-literacy skills.

LIS 4510 Children’s Materials and Services (3 Credits)
This course is designed to prepare librarians to work with children (ages birth to 12 years) in school and public libraries. Topics covered include children's development, reading interests and needs, materials selection, collection development (including print and non-print materials), discussions of specific genres, reading motivation skills, designing a children's area, and developing various programming ideas. Students read/view/listen to and evaluate a wide variety of materials for and about this age group, prepare and present booktalks and stories, become familiar with review sources, and design a one-year plan for youth services in a school or public library.

LIS 4511 Storytelling (2 Credits)
This course teaches librarians the skills, techniques, and procedures for developing and implementing a storytelling Program for children, young adults, or adults. The history of storytelling, its place in the school or public library, and in our culture as a whole, will be included. Students will read a wide variety of stories, learn techniques to adapt them for various settings and groups, demonstrate their ability to tell stories and to develop storytelling programs for two different age groups.

LIS 4520 Young Adult Materials & Services (3 Credits)
This course prepares librarians to work with young adults (ages 12-18) in school and public libraries. Topics covered include young adult development, reading interests and needs, materials selection, collection development (including print and non-print materials), and discussions of specific genres, reading motivation skills, designing a YA area, programming, and intellectual freedom issues. Participants will read/view/listen to and evaluate a wide variety of materials for and about this age group, prepare and present booktalks, become familiar with review sources, and design a one-year plan for a YA department in a small school or public library.

LIS 4535 School Libraries (2 Credits)
This course is a study of school libraries and the characteristics that make them different from other types of libraries. There is an emphasis on information literacy and educational technology standards as they apply to school libraries, the collaborative instructional process, and standards-based instruction including summative and formative assessment revision techniques. Collaborative planning and curriculum development through the school library program is addressed, as well as an understanding of networks and instructional delivery systems. Various strategies to improve students’ reading will be addressed, as well as a variety of methods for promoting children's and teen literature through collaboration with classroom teachers. Administration of the school library is addressed in a review of mission statements, goals and objectives, strategic planning, policies and procedures, and communication with school administration. The discussions will create an awareness of the important of leadership and professionalism through educational and professional organizations, lifelong learning, educational research, and mentoring. Most of the concepts in this class will have been introduced in other classes. This class will specifically tie the concepts to the school library setting.
LIS 4610 Alternative Careers-Librarians (3 Credits)
This course will explore the many different types of jobs and careers open to individuals with library-type skills. It will cover both traditional library jobs, for example, law librarianship, archivist work, corporate librarianship, school librarianship, and records management, as well as non-traditional career choices such as information brokerage, publishing, and information advising.

LIS 4700 Topics in LIS (1-5 Credits)
This flexible library and information science course will provide students with the opportunity to explore issues of current importance in the field. Topics and credit hours will vary and will address subjects such as emerging technologies, new methodologies, specific reader services, standards and practices, and social and economic trends in the profession. Prerequisite courses may be recommended or required as determined by the content of the specified course.

LIS 4701 Reference Topics (1 Credit)
This course provides the student with an opportunity to explore information resources in specific subject materials. Lecture, readings, class discussions, and exercises will address all formats of materials including print, electronic, and web resources.

LIS 4702 Type of Library: Topics (2 Credits)
This course is a study of specific types of libraries, such as public libraries, academic libraries, and special libraries, and the characteristics that make them different from other types of libraries. Specific topics covered will depend on the type of library, but may include collections, management, budgets and funding, as well as professional competencies.

LIS 4800 Intro Archives & Records Mgmt (3 Credits)
This course provides an introduction to the objectives and methods of the archival and records management professions including an overview of terminology, issues, and common practices. The systematic control of records throughout their life cycle from creation through processing, distribution, organization, retrieval and archival disposition will be covered. Prerequisites: LIS 4000 and LIS 4010; or instructor permission.

LIS 4805 Records Management (3 Credits)
This course covers the establishment of information maintenance plans, evaluations and audits of records and information management Programs, the records and information survey, retention policies and legal requirements, and techniques for integrating automation to records and information management. Prerequisite: LIS 4800 or instructor permission.

LIS 4806 Advanced Archives (3 Credits)
In this course, students will be given the opportunity to put into practice basic archival principles and functions. Students will perform the actions of appraisal, accessioning, arrangement, description, and access solution review for both analog and digital archival collections. Additionally, students will be given the task of providing solutions for new paradigms in archival processing such as creating a web archive, processing email collections, and capturing social media content. The course will be a combination of lecture, demonstration, lab time, discussion, and projects.

LIS 4810 Digital Libraries (3 Credits)
This course provides a theoretical foundation for the study of digital libraries and discusses the technological, organizational, social, and legal issues associated with the development and use of digital libraries. Through this course students develop an understanding of digital library components and explore theoretical and practical approaches to constructing, maintaining, and evaluating digital libraries. Topics examined include digital library definitions, design and architecture of digital libraries. Topics examined include digital library definitions, design and architecture of digital libraries, information access in the digital library environment, digital library users and user services, data repositories, digital curation, digital preservation, digital library evaluation, and digital librarianship.

LIS 4820 Digitization (3 Credits)
The course offers an introduction to issues and trends in planning, developing and managing digitization projects at libraries, archives, and museums. The focus of the course is on the conversion process of analog materials into the digital format, online delivery, and preservation of master files. The course discusses collection development policy for digital projects, copyright, digital imaging technology, digitization standards and best practices for text, images, audio, and video, metadata for cultural heritage collections, delivery platforms, preservation, project management, sustainability, documentation, promotion, and evaluation of digital projects.

LIS 4830 Building Digital Collections (3 Credits)
This course provides a theoretical foundation and practical experience in building interoperable digital collections. It will introduce students to all aspects of building digital collections, including planning, user needs analysis, selecting standards and content management systems, creating digital objects and metadata, designing user interface, preservation of digital objects, and management and evaluation of digital collections. Topics covered include content creation standards and best practices, metadata, interoperability, sustainability, scalability of management systems, and concepts related to designing access tools and delivery systems. Discussion of technology and its application to digital library practices will be a major theme. The course will be combination of lecture, discussion, and problem solving. It requires participants to conduct independent research and writing. Critical reading of course materials is essential to stimulate active participation in class discussions.

LIS 4850 Digital Preservation (3 Credits)
Students will learn the principles and practices of preserving access to information encoded in digital form. They will learn how to assess digital preservation needs within an institution, write digital preservation policies, and how to collect and present data to make a case for acquiring funds for digital preservation activities. Students will learn the basics of digital information encoding as it applies to the technological aspects of digital preservation, and will learn about current tools and practices used to preserve access to digitally encoded information over time. The course will be a combination of lecture, discussion, and problem solving. It requires participants to conduct independent research and writing. Critical reading of course materials is essential to stimulate active participation in class discussions.
LIS 4901 Capstone Course (4 Credits)
Students in this course will design and complete a project to demonstrate the ability to integrate and synthesize their masters course work and apply their knowledge to a topic. The class meets with an instructor regularly over the nine-week summer quarter. The instructor monitors and guides the students to ensure that they complete the phases of the project in accordance with the proposed timeline and goals. Evaluation will be based on individual performance, with respect to the quality and professionalism of the research, the management of the project, and analytical and writing skills. Prerequisite: Minimum of 45 quarter hours of graduate LIS course work completed, including all core courses, a proposal approved by the academic advisor and faculty permission.

LIS 4902 Internship (1-4 Credits)
This course will offer up to 4 credits for an internship position in libraries and archives. Students are encouraged to gain practical experience.

LIS 4910 Practicum Experience (4 Credits)
This course is designed to supplement the classroom experience by giving students practical experience working in a library or information agency. Various options are available to students depending on their areas of interest and specialization. Opportunities for experience include fields of medicine, law, art, public, and academic libraries. It is the students responsibility to select a practicum site and a field supervisor, who must be approved by LIS faculty. One hundred hours of service over a 10-week quarter are required. The student, faculty, and field supervisor will determine specific requirements for the final paper or report. Students must notify the LIS academic advisor one quarter before enrolling in the Practicum Experience. Prerequisite: Completion of a minimum of 38 quarter hours of graduate LIS coursework, including all core courses.

LIS 4911 Elementary School Practicum (2 Credits)
This course is designed to provide elementary school practical experience for teacher-librarians by working a minimum of 80 hours in an elementary school library. Prerequisite: Students must have completed most of the required coursework for the degree before enrolling in the Practicum.

LIS 4912 Secondary School Practicum (2 Credits)
This course is designed to provide secondary school practical experience for teacher-librarians by working a minimum of 80 hours in middle or high school library. Prerequisite: Students must have completed most of the required coursework for the degree before enrolling in the Practicum.

LIS 4920 Service Learning in LIS (1-4 Credits)
This course is designed to supplement the classroom experience by giving students an opportunity to participate in a service learning project. Students will propose an independent study component highlighting the learning aspects of the project. The experience should provide practical work in a library or information agency. Various options are available to students depending on their areas of interest and specialization. Opportunities for experience include many areas related to the information needs of an underserved population. It is the students responsibility to select a site and a field supervisor. The student, faculty coordinator, and field supervisor will work together to establish the goals and objectives of the experience. A minimum of 40 hours of service is required for two quarter hours of credit.

LIS 4991 MA Independent Study (1-10 Credits)
Independent study projects allow students more in-depth investigation of the many facets of library and information science. Students must work with an approved faculty advisor and submit a proposal outlining the objectives, scope, outcomes, and evaluation criteria. The faculty advisor and the department director must approve proposals. Prerequisites: Completion of a minimum of 30 quarter hours of graduate LIS coursework, including all core courses and a minimum GPA of 3.0.

LIS 4992 Directed Study (1-10 Credits)

Research Methods and Stats Courses

RMS 4900 Education Research and Measurement (4 Credits)
This course is intended for Master's degree students in the College of Education. Quantitative research designs, empirical methods of data collection and interpretation, and measurement issues in research are examined.

RMS 4910 Introductory Statistics (5 Credits)
This beginning statistics course examines use and interpretation of statistics in educational and human services research, including descriptive and inferential techniques. Cross listed with SOWK 5930.

RMS 4911 Correlation and Regression (4 Credits)
This course focuses on the study of correlation and multiple regression research designs and their application to educational and social science programs. Cross listed with SOWK 5202. Prerequisite: RMS 4910.

RMS 4912 Analysis of Variance (5 Credits)
Conceptual and applied analyses of one-way through factorial nested analysis of variance designs and multivariate analysis of variance are presented. Prerequisite: RMS 4910.

RMS 4913 Multivariate Analysis (5 Credits)
Conceptual and applied analyses of common multivariate statistical techniques used in research in social sciences are presented as are assumptions and limitations of techniques and interpretation of results. Cross listed with SOWK 5950. Prerequisite: RMS 4911.

RMS 4914 Structural Equation Modeling (5 Credits)
This course covers major applications of and issues related to covariance structure modeling, specifically confirmatory factor analysis and latent variable path modeling; types of research applications for which covariance structure modeling analyses are appropriate. Prerequisite: RMS 4911.
RMS 4915 Hierarchical Linear Modeling (4 Credits)
This course introduces models that extend multiple regression to analysis of nested data structures common in education and other social sciences. Application of those methods to various forms of multilevel data, including repeated measure (growth trajectory) data is emphasized. Prerequisite: RMS 4911.

RMS 4916 Latent Growth Curve Modeling (4 Credits)
This course covers advanced issues in longitudinal data analysis using structural equation modeling and hierarchical linear modeling with latent variables. It involves both conceptual development and practical implementation of longitudinal data analysis. This course is intended to be a hands-on approach to working with data and addressing research questions that can be best answered by longitudinal data. Prerequisite: RMS 4914.

RMS 4917 Computer Applications in Social Science Research (3 Credits)
This course focuses on use of statistical software and other appropriate software programs in the analysis of quantitative data. Prerequisite: RMS 4910.

RMS 4919 Topics in Statistics (1-5 Credits)
Topics vary by quarter but may include log-linear analysis, factor analysis, or missing data analysis.

RMS 4920 Educational Measurement (3 Credits)
This course examines the meaning, characteristics, and processes of educational measurement and evaluation. Development and interpretation of both standardized and informal tests are considered.

RMS 4921 Psychometric Theory (3 Credits)
This course examines major psychometric theories (e.g., classical, item response) as related to reliability, generalizability, validity, and item analysis methods. Prerequisite: RMS 4910.

RMS 4922 Item Response Theory (3 Credits)
Theory and methods for the educational and psychological measurement of latent variables using item response theory are covered in this course. Prerequisite: RMS 4921.

RMS 4929 Topics in Psychometrics (1-3 Credits)
Topics vary, but include: large scale testing, computer applications of item response theory, affective measure construction, generalizability theory, additive conjoint measurement, and standing testing. Prerequisite: RMS 4921 or instructor permission.

RMS 4930 Empirical Research Methods (3 Credits)
This course provides in depth study of empirical research methods involved in experimental, quasi-experimental, correlational, and single-subject designs.

RMS 4931 Survey and Design Analysis (3 Credits)
Survey techniques, needs assessment, item construction, sampling, maximizing response rates and data analysis; survey construction and data analysis are required. Prerequisite: RMS 4910.

RMS 4932 Meta-Analysis Social Science Research (3 Credits)
This course examines meta analytic techniques in the social sciences. Included are discussions of review of critical data bases, coverage of all major methods of data collection and analysis, and coverage of how best to present meta analytic findings for publication. Prerequisite: RMS 4910.

RMS 4939 Topics in Quantitative Research Methods (1-5 Credits)
Topics vary, but include minimization as an alternative to randomization, propensity score modeling as an alternative to experimental control, and analysis of data from single-subject designs. Prerequisite: RMS 4930.

RMS 4940 Structural Foundations of Research in Social Sciences (3 Credits)
This introductory course on epistemology and research includes discussions of identification and development of problems for research; introduction to basic quantitative and qualitative methods of conducting research in social science settings, ethnographic, and criticism methods.

RMS 4941 Introduction to Qualitative Research (4 Credits)
This course is designed to provide students with more in-depth understanding of naturalistic, qualitative research methods. It is assumed that students enrolling in this course have already completed an introductory research methods course in either education or another discipline. Purposes and questions posed in their course include: Why should a researcher choose to conduct a qualitative study? How are data collection strategies carried out in a qualitative research design? What are some of the ethical concerns that impact qualitative research?.

RMS 4942 Qualitative Data Collection and Analysis (4 Credits)
In this intermediate level qualitative research course students learn about design, purposeful sampling, field work, observational approaches, and interviews, with special attention directed to the skills and competencies needed to gather and analyze high quality data. Prerequisite: RMS 4941 or instructor permission.

RMS 4943 Computer Applications in Qualitative Research (3 Credits)
Review of assumptions of qualitative designs, types of qualitative approaches and current data-analysis techniques; computer software to analyze qualitative data.

RMS 4944 Action Research (3 Credits)
Definition of action research, whether it improves classroom practice, methods of conducting, strengths and weaknesses; use to improve specific aspects of educational practice, to become more reflective practitioners.
RMS 4945 Community-Based Research (4 Credits)
This class introduces the emerging philosophical and methodological issues that arise when university faculty students collaborate on research with community-based organizations. Prerequisites: RMS 4942 and RMS 4946.

RMS 4946 Advanced Qualitative Research (4 Credits)
This course introduces exemplary qualitative studies and consideration of implications for education and the social sciences, and considers the types of questions asked by qualitative researchers and methods they use, particularly observation and interviewing. Students undertake their own qualitative study to consider application of theory, techniques, and practice to their dissertation research. Prerequisite: RMS 4941 and RMS 4942 or permission of instructor.

RMS 4947 Arts-Based Research (3 Credits)
In this course students explore the ground upon which arts-based research is built and become acquainted with salient issues regarding this kind of research. We practice interviewing, observations and a few arts-based practices. Prerequisites: RMS 4942 and RMS 4946 or permission of instructor.

RMS 4949 Topics in Qualitative Research (1-5 Credits)
This seminar builds on the content of other qualitative research courses offered in the RMS program and meets the students where they are on their dissertation journey; thus learning opportunities are tailored to individual needs as far as possible. Assignments focus on the issues pertinent to the design of dissertation proposals and writing, including ethical issues and IRB preparation, theoretical/conceptual framework, literature review, methodology, data collection and analysis strategies, and various forms of representation.

RMS 4951 Mixed Method Research Design (4 Credits)
This course is designed as a fundamental exploration of mixed model and mixed method approaches. Students design mixed model and mixed method research studies with a particular emphasis on multi-site and longitudinal designs that are especially suited to educational issues. Students learn analysis approaches that incorporate previously learned quantitative and qualitative skills, and apply these in practice problem examples. Prerequisites: RMS 4911, RMS 4930 and RMS 4942.

RMS 4952 Research Ethics (1 Credit)
This course introduces ethical theory and a selection of current issues in research ethics.

RMS 4953 Topics in Data Management (1-3 Credits)
This is a preparatory course emphasizing the manipulation and analysis of data in electronic form.

RMS 4954 Grant Writing (3 Credits)
This course provides a focused overview of grant writing for educators. It examines the development of reference tools (paper, electronic, and online), websites, structuring, and writing funding requests, community collaboration and partnerships, project budgeting, management, evaluation, sustainability, and reporting activities.

RMS 4959 Topics in Research Design (1-5 Credits)
Topics vary, but include single subject design issues, minimization as an alternative to randomization, advances in quasi-experimental design. Prerequisite: RMS 4930.

RMS 4960 Program Evaluation Theory (3,4 Credits)
This course reviews theories of program evaluation and current trends in evaluation.

RMS 4961 Program Development & Evaluation (3 Credits)
This course focuses on the practice of program development and evaluation in school, business, or community agency settings. Both qualitative and quantitative methods of program evaluation are discussed. Students have the opportunity to focus on evaluation of a specific program.

RMS 4962 Program Development and Assessment (3 Credits)
This course focuses on how student affairs administrators conduct student outcomes assessment, evaluate program development, and monitor program and division budgets.

RMS 4969 Topics in Program Evaluation (1-5 Credits)
Topics vary, but include advocacy and policy change, assessment in higher education, multi-level evaluation, cost effectiveness analysis, data visualization and reporting, assessment in distance education, and evaluation in the arts and culture. Prerequisite: RMS 4960.

RMS 4980 Practicum in Research (1-5 Credits)
This course provides a supervised experience in design and implementation of an empirical research or evaluation study. Organization of research proposals, completion of human subjects applications, collection, and analysis of data are emphasized. Students are expected to prepare a written report of their project which is suitable for professional presentation or publication.

RMS 4981 Community-Based Research Practicum (1-5 Credits)
Students provide community-based research assistance to a community partner (non-profit, school, community based organization, etc). Student researchers are supervised by DU faculty. This course is an excellent opportunity to match the student's research expertise with the real needs of community partners. Prerequisite: RMS 4945.

RMS 4991 Independent Study (1-10 Credits)
This course allows Masters students in RMS to study a topic area independently in conjunction with a cooperating faculty member.
RMS 4992 Directed Study (1-10 Credits)
RMS 4995 Independent Research (1-10 Credits)
This course is for Masters students in RMS whose program requires completion of a Master's thesis.

RMS 5991 Independent Study (1-10 Credits)
This course allows Ph.D. students in RMS to study a topic area independently in conjunction with a cooperating faculty member.

RMS 5992 Directed Study (1-10 Credits)
RMS 5995 Independent Research (1-18 Credits)
This course is for Ph.D. students in RMS who are engaged in completing their doctoral dissertation.