The 48 credit hours of coursework is selected, in consultation with the student’s faculty advisor, from the information and library science curriculum or, as appropriate, from related subject fields in other schools and departments of the University or at neighboring universities. A master’s paper or project (INLS 992) is also required of each master’s student. A theme within the curriculum for both master’s degrees is evidence-based practice, which requires students to interpret and apply existing research to their professional situations, as well as to design and conduct their own research where necessary data is not otherwise available.

Graduate certificates within either the M.S.L.S. or the M.S.I.S. are available in the areas of: applied data science, biomedical imaging science, bioinformatics, clinical information science, computational linguistics, digital curation, digital humanities, interdisciplinary health communication, international development, and public health informatics. A program leading to a certificate as a school library media coordinator is also available as part of the M.S.L.S.

The School of Information and Library Science participates in several dual or cooperative degree programs. These include dual-degree programs with

- the Department of Health Policy and Management, Gillings School of Global Public Health, which combines the master of health administration (M.H.A.) or the masters of science in public health (MSPH) degree with either the M.S.L.S. or M.S.I.S.
- the Department of Art, which combines the master of arts in art history (M.A.) with either the M.S.I.S. or M.S.L.S. degree
- the School of Government, which combines the master of public administration (M.P.A.) with either the M.S.I.S. or M.S.L.S. degree
- the School of Law, which combines the juris doctor (J.D.) degree with either the M.S.L.S. or the M.S.I.S degree
- A cooperative archival program allows students to combine the master of arts (M.A.) in public history at North Carolina State University with either the M.S.L.S. or the M.S.I.S. Participation in any dual-degree program requires separate admission to both degree programs.

The basic requirement for admission to the master’s programs is a bachelor’s degree from a recognized college or university. The student’s undergraduate work should demonstrate a strong foundation in liberal arts and sciences. Each master’s student is expected to enter the program with a foundation in the basic technological tools (e.g., HTML, CSS, databases) employed in the field. Applicants must meet the requirements for The Graduate School. For details about the entrance requirements and the curriculum for the master’s programs, see the program descriptions available on the school’s website (http://sils.unc.edu/programs/).

The professional science master’s (P.S.M.) in biomedical and health informatics is an interdisciplinary program that prepares the next generation of health informatics leaders. The degree consists of 35 credits and requires about 1.5 academic years (17 months) of full-time study or 2(+) years of part-time study to complete. There are two tracks: public health informatics and clinical informatics. Students in each program track complete a practicum consisting of an internship in a health care, public health, health research, or health information technology organization that includes a project synthesizing knowledge gleaned from the entire program curriculum.

The professional science master’s (P.S.M.) in digital curation is a 31-credit-hour, online degree that focuses on digital curation. A
comprehensive, project-oriented curriculum allows students to develop the core skills, knowledge, and competencies for ensuring the longevity, authenticity, discoverability, and usability of digital assets.

The doctor of philosophy (Ph.D.) in health informatics is a 55-credit, interdisciplinary program that emphasizes advanced database management, analytics methods and evaluation, and human-computer interactions in health informatics.

The doctor of philosophy in information and library science (Ph.D.) is a research degree. Thus, the purpose of the doctoral program in SILS is to educate scholars who are capable of addressing problems of scholarly consequence in the field of information and library science. Each student will develop a program of studies that is tailored to individual interests and career goals. Required classes include a one semester seminar on research issues and questions (INLS 881) and completion of an appropriate sequence of courses in statistics. Additional courses in research methods and theory development are recommended, as are research experience and substantive content courses that are related to a student’s research interests. There are also opportunities for students to develop teaching skills through both coursework and teaching experience.

The school is located in Manning Hall, which houses classrooms as well as the administrative and faculty offices; ibiblio.org (http://ibiblio.org), one of the most popular Web sites on the Internet; Center for Information, Technology and Public Life (http://citap.unc.edu/) (CITAP) is a bold initiative at the University of North Carolina at Chapel Hill dedicated to researching, understanding, and responding to the growing impact of the internet, social media, and other forms of digital information sharing; and the Information and Technology Resource Center (ITRC). The ITRC includes the Information and Library Science Library, which holds more than 100,000 volumes, and computer labs. Those interested in any of the SILS degree programs should consult the SILS website (http://sils.unc.edu) or request information from the School of Information and Library Science, CB #3360, 100 Manning Hall, The University of North Carolina at Chapel Hill, Chapel Hill, N.C. 27599-3360. E-mail: info@ils.unc.edu. (info@ils.unc.edu)

Professors
Stephanie W. Haas
Sandra Hughes-Hassell
Christopher (Cal) Lee
Gary J. Marchionini, Cary C. Boshamer Distinguished Professor
Javed Mostafa
Arcot Rajasekar
Brian Sturm, Associate Dean for Academic Affairs
Helen R. Tibbo, Alumni Distinguished Professor

Associate Professors
Jaime Arguello
Robert Capra
Tressie McMillan Cottom
Melanie Feinberg
Mary Grace Flaherty
Amelia Gibson
David Gotz
Bradley M. Hemminger
Mohammad Hossein Jarrahi
Lukasz Mazur
Ryan Shaw
Zeynep Tufekci, McColl Term Associate Professor

Assistant Professors
Sayamindu Dasgupta
Marijel (Maggie) Melo
Francesca Tripodi
Yue (Ray) Wang
Fei Yu

Clinical Associate Professor
Cliff Missen

Teaching Associate Professor
Ronald Bergquist

Teaching Assistant Professors
Denise Anthony
Casey H. Rawson
Megan A. Winget

Adjunct Faculty
Sarah Arnold
Earl Bailey
Angela Bardeen
Jennifer Bauer
Heidi Barry-Rodriguez
Div Bhansali
Reema Bhattacharya
Joan Boone
Ron Brown
Stephanie Brown
Jeff Campbell
Sarah Cantrell
Jason Carter
Jason Casden
Ramana Chamarty
Alex Chassanoff
David Clarke
Rachael Clemens
Tammy Cox
William Cross
Doug Edmunds
Kelly Eubanks
Lori Haight
Patrick Hodges
Megan Von Isenburg
Lawrence Jones
Samantha Kaplan
Caroline Keizer
Ashok Krishnamurthy
Geraldine Larson
Adam Lee
Heather Maneiro
Brian Mynihan
Andreas Orphanides
Kimberly Robasky
Rob Ross
Nicky Sexton
Erik Scott
INLS

Advanced Undergraduate and Graduate-level Courses

INLS 418. Human Factors in System Design. 3 Credits.
Design, implementation, and evaluation of interfaces for computer systems. User-based techniques, usability issues, and human factors.
Requisites: Prerequisite, INLS 382.
Grading status: Letter grade.

INLS 465. Understanding Information Technology for Managing Digital Collections. 3 Credits.
Prepares students to be conversant with information technologies that underlie digital collections in order to evaluate the work of developers, delegate tasks, write requests for proposals, and establish policies and procedures. Teaches students how to think about information technology systems and recognize and manage interdependencies between parts of the systems.
Grading status: Letter grade.

INLS 467. Introduction to Information Security. 3 Credits.
Students will learn about many of the current issues facing businesses as well as how to prevent and discuss these issues and controls in depth. Focus will be placed upon preventing loss of information and protecting networks. Students should be able to understand any security control, describe its usage and rationale, as well as test and verify these controls are working as expected.
Requisites: Prerequisite, INLS 161.
Grading status: Letter grade.

INLS 490. Selected Topics. 1–3 Credits.
Exploration of an introductory-level special topic not otherwise covered in the curriculum. Previous offerings of these courses do not predict their future availability; new courses may replace these.
Repeat rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading status: Letter grade.

INLS 493. Professional Field Experience. 1 Credit.
Second field experience course to be offered to coincide with the student's information science project in a local organization. Enrollment restricted to IS majors and minors; Instructor permission required.
Requisites: Prerequisite, INLS 393.
Grading status: Pass/Fail.

INLS 500. Human Information Interactions. 3 Credits.
The behavioral and cognitive activities of those who interact with information, with emphasis on the role of information mediators. How information needs are recognized and resolved; use and dissemination of information.
Requisites: Prerequisite, INLS 203 or graduate standing.
Grading status: Letter grade.

INLS 501. Information Resources and Services. 3 Credits.
Analysis, use, and evaluation of information and reference systems, services, and tools for both printed and electronic delivery. Provides a foundation in electronic information search techniques, question negotiation, interviewing, and instruction.
Grading status: Letter grade.

INLS 509. Information Retrieval. 3 Credits.
Study of information retrieval and question answering techniques, including document classification, retrieval and evaluation techniques, handling of large data collections, and the use of feedback.
Grading status: Letter grade
Same as: COMP 487.

INLS 512. Applications of Natural Language Processing. 3 Credits.
Students with graduate standing in SILS may take the course without the prerequisite. Explores current and future uses of natural language technologies. Topics vary and may include translation, generation, deception, health informatics, ethics and evaluation, and student-selected areas of interest.
Requisites: Prerequisites, COMP 110, or 116, and; COMP 210, or 410.
Grading status: Letter grade
Same as: COMP 486.

INLS 513. Resource Selection and Evaluation. 3 Credits.
Identification, provision, and evaluation of resources to meet primary needs of clientele in different institutional environments.
Grading status: Letter grade.

INLS 515. Consumer Health Information. 3 Credits.
Examines concepts of health, health conditions, policy, and information collections and services from social and cultural perspectives. Analysis and design for provision and access to consumer health information services.
Grading status: Letter grade.

INLS 520. Organization of Information. 3 Credits.
Introduction to the problems and methods of organizing information, including information structures, knowledge schemata, data structures, terminological control, index language functions, and implications for searching.
Grading status: Letter grade.

INLS 523. Introduction to Database Concepts and Applications. 3 Credits.
Design and implementation of basic database systems. Semantic modeling, relational database theory, including normalization, indexing, and query construction, SQL.
Requisites: Prerequisite, INLS 161; permission of the instructor for students lacking the prerequisite.
Grading status: Letter grade.

INLS 525. Electronic Records Management. 3 Credits.
Explores relationships between new information and communication technologies and organizational efforts to define, identify, control, manage, and preserve records. Considers the importance of organizational, institutional and technological factors in determining appropriate recordkeeping strategies.
Grading status: Letter grade.
INLS 530. Young Adult Literature and Related Materials. 3 Credits.
A survey of print and nonprint library materials particularly suited to the needs of adolescents.
Grading status: Letter grade.

INLS 534. Youth and Technology in Libraries. 3 Credits.
This course encourages students to explore the array of technologies available to children and adolescents, the issues surrounding the use of technology, the role of caregivers, and potential impacts on development.
Grading status: Letter grade.

INLS 539. Going the Last Mile: Information Access for Underserved Populations. 3 Credits.
In this course we investigate the special challenges of providing information services to marginalized populations in an increasingly digital world.
Grading status: Letter grade.

INLS 540. Building a Personal Digital Library. 3 Credits.
Students will implement a personal digital LifeTime Library. Topics include creation of a personal digital library, organization of the material, creation of descriptive metadata, management, and sharing of the collection.
Grading status: Letter grade.

INLS 541. Information Visualization. 3 Credits.
An introduction to information visualization through reading current literature and studying exemplars. The course reviews information visualization techniques, provides a framework for identifying the need for information visualization, and emphasizes interactive electronic visualizations that use freely available tools. Students will construct several visualizations. No programming skills are required.
Grading status: Letter grade.

INLS 550. History of the Book and Other Information Formats. 3 Credits.
The history of the origin and development of the book in all its formats: clay tablets to electronic. Coverage includes scientific and other scholarly publications, religious works, popular literature, periodicals, and newspapers.
Grading status: Letter grade.

INLS 551. History of Libraries and Other Information-Related Cultural Institutions. 3 Credits.
The history of cultural institutions related to information from earliest times to the present day. Includes specific institutions, trends in service and facilities, and individuals important in the development of these institutions.
Grading status: Letter grade.

INLS 554. Cultural Institutions. 3 Credits.
This course will explore cultural institutions--libraries, museums, parks, zoological and botanical gardens, reconstructions and other settings--as lifelong educational environments.
Grading status: Letter grade.

INLS 556. Introduction to Archives and Records Management. 3 Credits.
Survey of the principles, techniques, and issues in the acquisition, management, and administration of records, manuscripts, archives, and other cultural and documentary resources in paper, electronic, and other media formats.
Grading status: Letter grade.

INLS 558. Principles and Techniques of Storytelling. 3 Credits.
An overview of storytelling, its historical development, and the presentation and administration of storytelling programs. The class focuses on performance skills merged with theoretical issues.
Grading status: Letter grade.

INLS 560. Programming for Information Science. 3 Credits.
Introduction to programming and computational concepts. Students will learn to write programs using constructs such as iteration, flow control, variables, functions, and error handling. No programming experience required.
Grading status: Letter grade.

INLS 561. Digital Forensics for Curation of Digital Collections. 3 Credits.
Students will learn about hardware, software, principles, and methods for capturing and curating digital data that have been stored on removable media (i.e., hard drives, floppy disks, USB memory sticks).
Grading status: Letter grade.

INLS 570. Intermediate Programming and Data Analysis. 3 Credits.
Intermediate programming concepts in information processing and data analysis. Students will learn object-oriented programming, data structures, data analysis methods, and information processing techniques in the context of information science topics.
Requisites: Prerequisite, INLS 560, or equivalent course.
Grading status: Letter grade.

INLS 572. Web Development I. 1.5 Credit.
Introduction to Internet history, architecture, and applications. Introduces design principles for creating usable and accessible Web sites. Develops technical skills and understanding of standards.
Requisites: Prerequisite, INLS 161.
Grading status: Letter grade.

INLS 573. Mobile Web Development. 1.5 Credit.
An introduction to techniques and technologies for the development of mobile Web sites and their applications.
Requisites: Prerequisite, INLS 161.
Grading status: Letter grade.

INLS 576. Distributed Systems and Administration. 3 Credits.
Distributed and client/server-based computing. Includes operating system basics, security concerns, and issues and trends in network administration.
Requisites: Prerequisite, INLS 161 or 461.
Grading status: Letter grade.

INLS 578. Protocols and Network Management. 3 Credits.
Network protocols and protocol stacks. Included are discussions of protocol classes, packet filtering, address filtering, network management, and hardware such as protocol analyzers, repeaters, routers, and bridges.
Requisites: Prerequisite, INLS 161 or 461.
Grading status: Letter grade.

INLS 581. Research Methods Overview. 3 Credits.
An introduction to research methods used in information and library science, exploring the design, interpretation, analysis, and application of published research.
Grading status: Letter grade.

INLS 582. Systems Analysis. 3 Credits.
Introduction to the systems approach to the design and development of information systems. Methods and tools for the analysis and modeling of system functionality (e.g., structured analysis) and data represented in the system (e.g., object-oriented analysis) are studied.
Requisites: Prerequisite, INLS 382 or graduate standing.
Grading status: Letter grade.
INLS 584. Information Ethics. 3 Credits.
An overview of ethical reasoning, followed by discussion of issues most salient to information professionals, e.g., intellectual property, privacy, access/censorship, effects of computerization, and ethical codes of conduct.
Grading status: Letter grade.

INLS 585. Management for Information Professionals. 3 Credits.
Introduction to management principles and practices for information professionals working in all types of organizations. Topics include planning, budgeting, organizational theory, staffing, leadership, organizational change and evaluation, and decision making.
Grading status: Letter grade.

INLS 586. Project Management. 1.5 Credit.
Strategies and skills needed to effectively manage projects, integrating project management theory with best practices in different organizational perspectives. Individual and team assignments include readings and case studies.
Grading status: Letter grade.

INLS 609. Experimental Information Retrieval. 3 Credits.
This course takes an in-depth look at experimental information retrieval systems that focus on different search tasks and are evaluated in community-wide evaluation forums such as TREC and INEX.
Requisites: Prerequisite, INLS 509.
Grading status: Letter grade.

INLS 613. Text Mining. 3 Credits.
This course will allow the student to develop a general understanding of knowledge discovery and gain a specific understanding of text mining. Students will become familiar with both the theoretical and practical aspects of text mining and develop a proficiency with data modeling text.
Grading status: Letter grade.

INLS 620. Web Information Organization. 3 Credits.
Similar programming background needed. Understand the Web as a platform for information organizing systems. Learn how the Web has been designed to be a service platform, data publishing platform, and application platform.
Requisites: Prerequisites, INLS 520 or 560.
Grading status: Letter grade.

INLS 621. Personal Information Management. 3 Credits.
This course focuses on issues in personal information management research and practice, including information organization, human cognition and memory, task continuity across devices, preservation, and the role of technology in personal information management.
Grading status: Letter grade.

INLS 623. Database Systems II: Intermediate Databases. 3 Credits.
Intermediate-level design and implementation of database systems, building on topics studied in INLS 523. Additional topics include MySQL, indexing, XML, and nontext databases.
Requisites: Prerequisites, INLS 382 or 582, and 523.
Grading status: Letter grade.

INLS 624. Policy-Based Data Management. 3 Credits.
Students will develop policies for managing digital repositories and persistent archives. The rules will be implemented in the integrated Rule-Oriented Data System (iRODS), which organizes and distributes data into shareable collections.
Requisites: Prerequisite, INLS 461 or COMP 110 or 116.
Grading status: Letter grade.

INLS 625. Information Analytics. 3 Credits.
This course introduces analytical techniques to deal with very large data sets. Students will become familiar with predictive modeling, clustering, data mining, and paradigms such as map resource.
Requisites: Prerequisite, INLS 560; permission of the instructor for students lacking the prerequisite.
Grading status: Letter grade.

INLS 626. Introduction to Big Data and NoSQL. 1.5 Credit.
Information is being generated at an exponential scale in many areas, from astronomy to social networking and e-marketing. Processes for handling these data are data intensive, require heavy read/write workloads, and do not need the stringent ACID properties of relational databases. Several specific systems will be studied as examples.
Requisites: Prerequisite, INLS 523.
Grading status: Letter grade.

INLS 641. Visual Analytics. 3 Credits.
This project-based course provides an overview of visual analytics. Material includes foundational concepts and theories, seminal and recent research in the field, and hands-on experience with commonly used technologies. Programming experience strongly recommended.
Grading status: Letter grade.

INLS 651. Audio-Visual Archives Management. 1.5 Credit.
An introduction to the management of audio, film, and video archives with an emphasis on the history of recording, best practices for preservation and access, and copyright. Through selected readings, lecture, class discussion, assignment, and hands-on demonstration, students will gain an understanding of the history of recording, format identification, storage and handling, philosophy of media preservation, and copyright.
Grading status: Letter grade.

INLS 660. Social Media and Society: A Theoretical and Empirical Overview. 3 Credits.
Explores the evolution, implications, and complications of social media in multiple spheres of life including sociality, community, politics, power and inequality, education, and information from theoretical and empirical perspectives.
Grading status: Letter grade.

INLS 672. Web Development II. 3 Credits.
Study of design and implementation of applications using both client and server side configuration and programming. Example topics include PHP, Ruby on Rails, and Javascript.
Requisites: Prerequisite, INLS 572.
Grading status: Letter grade.

INLS 685. Project Management: Strategy and Applications. 3 Credits.
This course is a broad introduction to project management principles, tools, and strategies intended for use in a variety of applications. Key topics include project planning tools, project process groups, risk assessment, budgeting/cost estimation, and team management. Through the use of readings, videos, assignments, and forum discussions, students will have the opportunity to demonstrate knowledge and understanding of the strategy behind successful project management and problem resolution.
Grading status: Letter grade.
INLS 690. Intermediate Selected Topics. 1-3 Credits.
Exploration of a special topic not otherwise covered in the curriculum, at an intermediate level. Previous offering of this course does not predict future availability; new courses may replace these. Topic varies by instructor.
Repeat rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading status: Letter grade.

INLS 691H. Research Methods in Information Science. 3 Credits.
Senior standing and permission of the instructor. Restricted to information science majors. An introduction to research methods used in information science. Includes the writing of a research proposal.
Gen Ed: CI, EE- Mentored Research.
Grading status: Letter grade.

INLS 692H. Honors Thesis in Information Science. 3 Credits.
Senior standing and permission of the instructor. Restricted to information science majors. Students in the SILS undergraduate honors program engage in independent research and write an honors thesis reporting the research under the supervision of a faculty member.
Gen Ed: EE- Mentored Research.
Grading status: Letter grade.

INLS 696. Study in Information and Library Science. 1-3 Credits.
Study by an individual student on a special topic under the direction of a specific faculty member. Six credit maximum for master's students. Graduate faculty.
Requisites: Prerequisite, permission of the instructor.
Repeat rules: May be repeated for credit; may be repeated in the same term for different topics; 6 total credits. 2 total completions.
Grading status: Letter grade.

INLS 697. Information Science Capstone. 3 Credits.
Senior standing required. Information science major or minor. Contemporary topics of information science, information systems, information technology, information design, and information management. Assessment of future impact of new developments.
Grading status: Letter grade.

Graduate-level Courses

INLS 700. Scholarly Communication. 1.5 Credit.
Addresses how scholars approach academic work; social relationships within academia; external stakeholders in the scholarly communication system; and emerging technologies' impact upon work practices. Intended for students interested in academic libraries or digital collections of scholarly materials, and/or conducting research on scholarly communication.
Requisites: Prerequisite, INLS 500 or permission of instructor.
Grading status: Letter grade.

INLS 701. Information Retrieval Search Strategies. 3 Credits.
Investigates information retrieval techniques and strategies from the world of electronic information sources, including commercial and Internet databases and search engines. Data analysis, marketing, and end-user products and services are explored.
Requisites: Prerequisite, INLS 501 or INLS 509.
Grading status: Letter grade.

INLS 702. Social Science Information. 1.5 Credit.
Survey of information and its needs in the social sciences, with an emphasis on information use and search strategies and on information resources.
Requisites: Prerequisite, INLS 501.
Grading status: Letter grade.

INLS 703. Science Information. 3 Credits.
Survey of the communication of scientific information and the information sources in the physical and biological sciences; emphasis on major bibliographic and fact sources, including online reference services.
Requisites: Prerequisite, INLS 501.
Grading status: Letter grade.

INLS 704. Humanities Information. 1.5 Credit.
Survey of information and its needs in the humanities, with an emphasis on information use and search strategies and on reference and other information resources.
Requisites: Prerequisite, INLS 501.
Grading status: Letter grade.

INLS 705. Health Sciences Information. 3 Credits.
A survey of information used in the health sciences disciplines and professions. The organization of sources, current techniques, and tools for its control, including online databases.
Requisites: Prerequisite, INLS 501.
Grading status: Letter grade.

INLS 706. Biomedical Informatics Research Review. 1.5 Credit.
Develops understanding of information/library science research issues related to biomedical and health informatics through the review of journal articles, invited talks, and critical group discussions.
Repeat rules: May be repeated for credit.
Grading status: Letter grade.

INLS 707. Government Information. 3 Credits.
A survey of information and data sources from all levels of U.S. government, and international bodies. Primary focus on strategies for finding information; secondary, collection management, role of librarians, etc.
Grading status: Letter grade.

INLS 708. Law Libraries and Legal Information. 3 Credits.
An introduction to the legal system and the development of law libraries, their unique objectives, characteristics, and functions. The literature of Anglo-American jurisprudence and computerized legal research are emphasized, as well as research techniques.
Requisites: Prerequisite, INLS 501.
Grading status: Letter grade.

INLS 709. Business Information. 3 Credits.
Combines an introduction to basic business concepts and vocabulary with consideration of current issues in business librarianship and of key print and electronic information sources.
Requisites: Prerequisite, INLS 501.
Grading status: Letter grade.

INLS 710. Evidence-Based Medicine. 3 Credits.
An introduction to the process of evidence-based medicine (EBM) including question building, searching, and critical appraisal of studies and to the supporting roles and opportunities for medical librarians.
Grading status: Letter grade.

INLS 711. Disaster Planning for Libraries. 1.5 Credit.
Disasters can come in a variety of forms (e.g. hurricanes, floods, fires, tornadoes, etc.) and strike at any time. Preparedness, prevention, and planning are all critical components of effective disaster responsiveness. In this course, students will learn about disaster prevention, recovery, training, and outreach as they apply to the library setting.
Grading status: Letter grade.
INLS 712. Introduction to Text Mining. 1.5 Credit.
Changes in technology and publishing practices have eased the task of recording and sharing textual information electronically. This increased quantity of information has spurred the development of a new field called text mining. The overarching goal of this new field is to use computers to automatically learn new things from textual data. Throughout the course, a strong emphasis will be placed on evaluation. Students will develop a deep understanding of one particular method through a course project.
Grading status: Letter grade.

INLS 714. Introduction to Information Analytics. 1.5 Credit.
The data explosion experienced by computerization of every aspect of our lives from social media to internet of things requires a deeper look at information analytics. The course introduces proven and emerging analytical techniques that can be used to deal with mountains of mostly unstructured data. We will look at several analytical paradigms from Predictive Modeling to Data Mining, Text Analytics to Web Analytics, Statistical Analysis to novel paradigms in Map Reduce and Storm.
Grading status: Letter grade.

INLS 718. User Interface Design. 3 Credits.
Basic principles for designing the human interface to information systems, emphasizing computer-assisted systems. Major topics: users' conceptual models of systems, human information processing capabilities, styles of interfaces, evaluation methods.
Requisites: Prerequisite, INLS 582.
Grading status: Letter grade.

INLS 719. Usability Testing and Evaluation. 3 Credits.
This course will introduce central concepts in usability engineering, testing and evaluation including: UX lifecycle, contextual inquiry, formal and informal evaluation techniques, measures, metrics, qualitative and quantitative analysis, evaluation reporting.
Requisites: Prerequisites, INLS 382 or INLS 582.
Grading status: Letter grade.

INLS 720. Metadata Architectures and Applications. 3 Credits.
Examines metadata in digital environment. Emphasizes the development and implementation of metadata schemas in distinct information communities and the standards and technological applications used to create machine understandable metadata.
Requisites: Prerequisite, INLS 509 or 520.
Grading status: Letter grade.

INLS 721. Cataloging Theory and Practice. 3 Credits.
Covers principles, practices, and future trends for cataloging library resources. Topics include RDA/AACR2, MARC, authority control, subject analysis, classification, and cataloging of print, nonprint, and digital resources.
Requisites: Pre- or corequisite, INLS 520.
Grading status: Letter grade.

INLS 722. Introduction to Metadata Architectures and Applications. 1.5 Credit.
Examines fundamental concepts central to structured metadata implementations and surveys the many types of standards that attempt to harmonize description and enable interoperable systems. The course situates the challenge of implementing standards for interoperable data within the messy reality of persistent interpretive diversity. Students cannot receive credit for both INLS 722 and INLS 720.
Grading status: Letter grade.

INLS 723. Database Systems III: Advanced Databases. 3 Credits.
Advanced study of database systems. Topics include database design, administration, current issues in development and use, optimization, indexing, transactions, and database programming.
Requisites: Prerequisite, INLS 623.
Grading status: Letter grade.

INLS 724. Introduction to Electronic Records Management. 1.5 Credit.
We explore the management and preservation of electronic records for maintaining institutional accountability; protecting rights of citizens, employees and customers; supporting efficient operations; perpetuating social memory; and helping individuals to integrate the past into their sense of identity. We begin by considering the messy recordkeeping environment that surrounds us and then build up a set of concepts, tools and strategies that information professionals can use to help shape more appropriate, valuable and sustainable recordkeeping systems.
Grading status: Letter grade.

INLS 728. Seminar in Knowledge Organization. 3 Credits.
Explores theoretical foundations, historical approaches, and current practices for organizing knowledge. Covers general terminological and classificatory systems, domain semantic systems, and research.
Requisites: Prerequisite, INLS 509 or 520; permission of the instructor for students lacking the prerequisite.
Grading status: Letter grade.

INLS 732. Children's Literature and Related Materials. 3 Credits.
Survey of literature and related materials for children with emphasis on 20th-century authors and illustrators.
Grading status: Letter grade.

INLS 733. Administration of Public Library Work with Children and Young Adults. 3 Credits.
Objectives and organization of public library services for children and young adults; designed for those who may work directly with young people or who intend to work in public libraries.
Grading status: Letter grade.

INLS 735. Youth Services in a Diverse Society. 3 Credits.
The purpose of this course is to prepare students to work as youth services librarians in today's increasingly diverse society. The course includes a 30-hour service learning component.
Grading status: Letter grade.

INLS 737. Inclusive Information Services for Diverse Populations. 3 Credits.
This course will prepare students to work as ILS professionals in today's increasingly diverse society. Students will develop a theoretical base in critical race theory (CRT) and other cross-disciplinary theories.
Grading status: Letter grade.

INLS 739. Information Services and Specific Populations. 3 Credits.
Service, professional, and administrative issues related to information access by nontraditional information service users. The course examines trends, public policy, ethical issues, programming, and evaluation of services.
Grading status: Letter grade.

INLS 740. Digital Libraries: Principles and Applications. 3 Credits.
Research and development issues in digital libraries including: collection development and digitization, mixed mode holdings; access strategies and interfaces, metadata and interoperability, economic and social policies, and management and evaluation.
Grading status: Letter grade.
INLS 746. Music Librarianship. 3 Credits.
Survey of the history and practice of music librarianship, with an emphasis on administration, collection development, and public service in academic and large public libraries.
Grading status: Letter grade.

INLS 747. Special Libraries and Knowledge Management. 3 Credits.
Professional competencies required to work as a special librarian or knowledge manager in a corporate or nonprofit setting. Strategic planning, Organizational dynamics. Tailoring services. Intranet design. Value-added measures. Intellectual capital.
Requisites: Prerequisite, INLS 585.
Grading status: Letter grade.

INLS 748. Health Sciences Environment. 3 Credits.
Trends in health care delivery, biomedical research and health sciences education, with emphasis on the impact and use of information. Includes observation of clinical and research settings.
Requisites: Prerequisite, INLS 501 or 585; permission of the instructor for students lacking the prerequisite.
Grading status: Letter grade.

INLS 749. Art and Visual Information Management. 3 Credits.
A survey of the history and practice of art and visual resources librarianship/curatorship, with an emphasis on administration, collection development, copyright practices, digital resource management, and public service.
Requisites: Prerequisite, INLS 520.
Grading status: Letter grade.

INLS 750. Introduction to Digital Curation. 3 Credits.
Introduces students to digital curation; focusing best practices for the creation, selection, storage, provision, and long-term preservation of digital entities. Discusses the digital/data curation life cycles and identifies the activities associated with each stage and their social, legal, ethical, and policy implications.
Grading status: Letter grade.

INLS 751. Advanced Digital Curation. 3 Credits.
Continuing from "Introduction to Digital Curation," this course further explores emerging best practices, standards, and new tools and workflows for the full range of life cycle activities including but are not limited to: digitization technologies; ingest; standards and quality control; storage; preservation workflows; digital asset management; and metadata. It engages students with research data management, data management plans, data curation profiles, policy issues, content sharing, and grant writing.
Requisites: Prerequisite, INLS 750.
Grading status: Letter grade.

INLS 752. Digital Preservation and Access. 3 Credits.
Focuses on best practices for the creation, provision, and long-term preservation of digital entities. Topics include digitization technologies; standards and quality control; digital asset management; grant writing; and metadata.
Grading status: Letter grade.

INLS 753. Preservation of Library and Archive Materials. 3 Credits.
An introduction to current practices, issues, and trends in the preservation of materials for libraries and archives, with an emphasis on integrating preservation throughout an institution's operations.
Grading status: Letter grade.

INLS 754. Access. Outreach, and Public Service in Cultural Heritage Repositories. 3 Credits.
Explores user needs, information seeking behaviors, and provision of access to primary source materials in archives, manuscript repositories, and museums. User education and outreach are major foci.
Requisites: Prerequisite, INLS 501.
Grading status: Letter grade.

INLS 755. Archival Appraisal. 3 Credits.
Explores history, theories, techniques, and methods that archivists use to identify documents and other materials of enduring value for long-term preservation.
Requisites: Prerequisite, INLS 556.
Grading status: Letter grade.

INLS 756. Data Curation and Management. 3 Credits.
Explores data curation lifecycle activities from design of good data, through content creator management, metadata creation, ingest into a repository, repository management, access policies and implementation, and data reuse.
Grading status: Letter grade.

INLS 757. Principles and Practices in Archival Description. 3 Credits.
Recommended preparation, INLS 520. Explores the history, principles, development, and use of archival description with a focus on EAD and MARC structures. Presents authority and subject analysis work and description for special formats.
Requisites: Prerequisite, INLS 556.
Grading status: Letter grade.

INLS 758. International and Cross-Cultural Perspectives for Information Management. 3 Credits.
Examines information in society for selected nations/cultures. Compares institutions, processes, and trends in the globalization of information management in the face of barriers of language and culture.
Grading status: Letter grade.

INLS 760. Web Databases. 3 Credits.
Programming experience required. Explores concepts and practice surrounding the implementation and delivery of Web-enabled databases. Students will gain experience with and evaluate PC and Unix Web database platforms.
Requisites: Prerequisites, INLS 572 and 623.
Grading status: Letter grade.

INLS 761. Data Analysis. 1.5 Credit.
This course provides fundamental skills for developing software for the analysis of structured data sets. Students will learn data analysis techniques using numeric, textual, and tabular data in the context of data science topics such as information retrieval, textual analysis, and basic machine learning. The course combines conceptual understanding of data structures and algorithms with practical techniques for implementation and debugging. Course concepts are taught using Python. For Certificate in Applied Data Science students.
Requisites: Prerequisites, COMP 110, and INLS 560, or equivalent.
Grading status: Letter grade.

INLS 762. Internet Issues and Future Initiatives. 3 Credits.
Members of this seminar discuss emerging Internet policy issues such as copyright, intellectual property, privacy, and security. Participants will also explore emerging Internet tools and applications.
Requisites: Prerequisite, INLS 572.
Grading status: Letter grade.
INLS 765. Information Technology Foundations for Managing Digital Collections. 1.5 Credit.
Prepares students to be conversant with information technologies that underlie digital collections in order to evaluate the work of developers, delegate tasks, write requests for proposals, and establish policies and procedures.
**Grading status:** Letter grade.

INLS 766. Audit and Certification of Trustworthy Digital Repositories. 1.5 Credit.
This course will address international standards for repository design and audit; risk assessment and mitigation; repository audit and certification tools and processes; criteria for trustworthiness; and the development of specific workflows to support trustworthy digital curation functions.
It is also the first step in preparing for repository self-audits and the Trustworthy Digital Repository Auditor’s credential to become an auditor of trustworthy digital repositories (ISO 16365).
**Grading status:** Letter grade.

INLS 767. Information Assurance. 3 Credits.
Information assurance is a broader concept than (computerized) information security. It deals with aspects of data integrity, privacy, paper and human security issues, and security from several perspectives: legal issues, technical tools and methods, social and ethical concerns, and organization’s policies and procedures, and standards. Previously offered as INLS 566.
**Grading status:** Letter grade.

INLS 772. Applied Statistics, Machine Learning, & Data Communication. 3 Credits.
An applied course introducing computational statistical analysis, machine learning, data exploration and communication with a focus on applied concepts as encountered within common data science applications.
**Requisites:** Prerequisites, COMP 110 and INLS 560, 761, and 773.
**Grading status:** Letter grade.

INLS 773. Database for Data Science. 1.5 Credit.
This course will introduce the basic concepts and implementations of relational database management systems suited for data science applications. Topics include user requirements and specifications, ER models, database programming including SQL, data quality, and applications.
**Grading status:** Letter grade.

INLS 774. Applied Data Ethics. 1.5 Credit.
This course will introduce students to ethical issues faced by data scientists in creation, collection, curation, and use of data. It addresses issues at multiple scales. Students begin with an overview of ethical frameworks and apply them to cases through the course. Readings and class discussions will be drawn from current events. The course is heavily discussion and participation-based, and students are expected to bring examples of ethical scenarios to class sessions. Intended for students for students fulfilling the data ethics requirement in the UNC SILS Data Science certificate. All others are encouraged to take one of SILS’ full-semester ethics courses.
**Grading status:** Letter grade.

INLS 775. Applied Data Curation and Management. 1.5 Credit.
Introduce to digital and data curation in a wide array of environments including business, government, and academia. Topics include: the Data Curation Lifecycle; research data management; data sharing; challenges and benefits of big data, good data, open data, and FAIR data; the ethics of data collection, analysis, and storage; data sharing and reuse for the academic, government, and business sectors; and the roles of data management plans in all data venues.
**Grading status:** Letter grade.

INLS 781. Proposal Development. 1.5 Credit.
Development of a proposal for the master’s paper/project/portfolio.
**Requisites:** Prerequisite, INLS 581.
**Grading status:** Letter grade.

INLS 782. Library Assessment. 3 Credits.
Addresses evaluation and assessment activities in libraries. Existing tools for evaluation library operations will be considered. Students will design and conduct their own evaluation of one or more library operations.
**Requisites:** Prerequisite, INLS 581.
**Grading status:** Letter grade.

INLS 783. Library Instruction & Pedagogy. 3 Credits.
Examines the role of school, public, and academic librarians in providing instruction. Pedagogy, learning theories, information literacy standards and curricula, and assessment methods are addressed.
**Grading status:** Letter grade.

INLS 785. Human Resources Management. 3 Credits.
An in-depth look at the management of human resources in libraries and other information agencies. Includes topics such as recruitment, hiring, job analysis, performance appraisal, training, and compensation.
**Requisites:** Prerequisite, INLS 585.
**Grading status:** Letter grade.

INLS 786. Marketing of Information Services. 3 Credits.
Application of marketing theory to libraries and other information settings. Includes consumer behavior, market research, segmentation, targeting and positioning, public relations, product design, and sales promotion.
**Grading status:** Letter grade.

INLS 787. Legal Issues for Librarians. 3 Credits.
Students will learn to read/analyze legal materials, identify major legal issues and legal regulations governing librarians, and use legal information to create policies and guide best practice in particular institutions.
**Grading status:** Letter grade.

INLS 789. Big Data, Algorithms and Society. 3 Credits.
This course examines the effect of big data on politics and the public sphere, how social media affects social movements, and the privacy and security vulnerabilities exposed by the coming Internet of Things. There can be potential negative societal consequences of social media and big data; this course studies the realities of the intersection of big data, algorithmic manipulation of data, and societal understanding of them.
**Grading status:** Letter grade.
INLS 792. Applied Data Science Practicum. 3 Credits.
The Applied Data Science Practicum course is designed to build upon the formal classroom instruction in data science concepts and technologies through a "hands-on" project experience within an industry, non-profit or other work environment that relates the the student's primary field of study/practice. The aim is to provide students with a practical learning opportunity to apply data science techniques on real-world problems. Permission of Instructor required for this course.
Grading status: Letter grade.

INLS 794. Digital Curation Internship. 4 Credits.
Permission of Instructor. PSM Internship in Digital Curation is a planned, individualized, mentored, evaluated, experiential learning opportunity that serves as a bridge between academic training and non-academic practice.
Grading status: Letter grade.

INLS 795. Supervised Field Experience. 3 Credits.
Required preparation, completion of 18 semester hours. Permission of the instructor. Supervised observation and practice in an information service agency or library. The student will work a required amount of time under the supervision of an information/library professional and participate in faculty-led discussions for ongoing evaluation of the practical experience.
Repeat rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading status: Letter grade.

INLS 796. Field Experience in School Library Media. 3 Credits.
Required preparation, completion of at least 21 semester hours, including INLS 744 and INLS 754. Permission of the instructor. Supervised observation and practice in a school library media center. Faculty-led seminars, reflection journals, and on-site faculty observations enhance the experience.
Repeat rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading status: Letter grade.

INLS 797. Second Field Experience for Graduate Students. 1.5 Credit.
Second Field Experience course to be offered to coincide with graduate students information or library science project in an organization. Department consent required.
Requisites: Prerequisite, INLS 795.
Repeat rules: May be repeated for credit. 3 total credits. 2 total completions.
Grading status: Letter grade.

INLS 800. Seminar Series in Digital Curation. 1.5 Credit.
This course will provide brief introductions to materials that do not otherwise fit into the 31 credit format of the PSM in Digital Curation degree. This course will cover established topics but also late-breaking developments so as to keep students up-to-date with changes in tools, practices, and standards. A lecture or interview with a digital curation expert will be posted biweekly.
Grading status: Letter grade.

INLS 818. Seminar in Human-Computer Interaction. 3 Credits.
Research and development in design and evaluation of user interfaces that support information seeking. Major topics: interactivity, needs assessment, query and browser interactions, interactive design and maintenance, usability testing.
Requisites: Prerequisite, INLS 718; permission of the instructor for students lacking the prerequisite.
Grading status: Letter grade.

INLS 841. Seminar in Academic Libraries. 3 Credits.
Study of problems in the organization and administration of college and university libraries with emphasis on current issues in personnel, finance, governance, and services.
Requisites: Prerequisite, INLS 585.
Grading status: Letter grade.

INLS 842. Seminar in Popular Materials in Libraries. 3 Credits.
Selected topics relating to the roles of various types of libraries in the provision and preservation of popular materials (light romances, science fiction, comic books, etc.) existing in various forms (print, recorded sound, etc.)
Grading status: Letter grade.

INLS 843. Seminar in Public Libraries. 3 Credits.
Required preparation, completion of 12 semester hours. Selected topics in public library services, systems, networks, and their management. Current issues are emphasized, along with the interests of the participants.
Grading status: Letter grade.

INLS 857. Seminar in Rare Book Collections. 3 Credits.
A study of the nature and importance of rare book collections; problems of acquisition, organization, and service.
Grading status: Letter grade.

INLS 873. Research Practicum. 1-3 Credits.
Doctoral students will work on faculty-sponsored or off-site research projects to gain foundational research skills. Students may be involved in research design, data collection, data analysis, or other research-related activities.
Repeat rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 6 total completions.
Grading status: Letter grade.

INLS 881. Research Issues and Questions I. 3 Credits.
Doctoral standing or permission of the instructor. Intensive and systematic investigation of the fundamental ideas in information and library science. Exploration and discussion in seminar format. Must be taken in fall semester followed by INLS 882 in spring.
Grading status: Letter grade.

INLS 882. Research Issues and Questions II. 3 Credits.
Doctoral standing or permission of the instructor. Intensive and systematic investigation of the fundamental ideas in information and library science. Exploration and discussion in seminar format. Must be taken in the spring semester immediately after INLS 881 (offered fall only).
Grading status: Letter grade.

INLS 883. Research Colloquium. 1 Credit.
Doctoral standing required. Presentation and discussion of research issues, questions, methods, analytical approaches by students, faculty, or visitors.
Grading status: Letter grade.

INLS 884. Seminar in Research Methodology. 3 Credits.
Required preparation, doctoral standing or INLS 780 for Master's students. Permission of the instructor for students lacking this preparation. Exploration of topics related to research design and methodology in information and library science.
Grading status: Letter grade.
INLS 886. Graduate Teaching Practicum. 1-3 Credits.
Permission of the instructor. Doctoral students will observe and work with faculty in the classroom to gain foundational teaching skills. Students may practice designing a class session or exercise, leading a class, and/or grading.
Repeat rules: May be repeated for credit. 3 total credits. 2 total completions.
Grading status: Letter grade.

INLS 887. Seminar in Theory Development. 3 Credits.
Doctoral or advanced master’s standing required. Discussion and critique of the structural components and processes utilized in theory development. Seminar provides knowledge relating to the various stages of theory building.
Grading status: Letter grade.

INLS 888. Seminar in Teaching and Academic Life. 3 Credits.
Doctoral student or advanced master’s standing required. Examines teaching, research, publication, and service responsibilities. Provides perspective on professional graduate education and LIS educational programs. Explores changing curricula and discusses ethics, rewards, and problems of academic life.
Grading status: Letter grade.

INLS 889. Seminar in Teaching Practice. 1 Credit.
Doctoral standing required. For doctoral students currently involved in teaching activities, these regular seminar meetings are designed to discuss relevant literature and aspects of the teaching experience.
Requisites: Pre- or corequisite, INLS 888.
Grading status: Letter grade.

INLS 890. Advanced Special Topics. 1-6 Credits.
Exploration of an advanced special topic not otherwise covered in the curriculum. Previous offering of these courses does not predict their future availability; new courses may replace these.
Repeat rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading status: Letter grade.

INLS 888. Research in Information and Library Science. 1-6 Credits.
Permission of the instructor. Supports individual and small group research undertaken by doctoral students in information and library science intended to produce research results of publishable quality.
Repeat rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading status: Letter grade.

INLS 992. Master's (Non-Thesis). 3 Credits.
Provides a culminating experience for master's degree students, who engage in independent research or project effort and develop a major paper reporting the research or project under the supervision of a faculty member.
Repeat rules: May be repeated for credit.

INLS 994. Doctoral Research and Dissertation. 3 Credits.