IS 199  Undergraduate Open Seminar  credit: 1 to 5 Hours.
Undergraduate Open Seminar. May be repeated.

IS 202  Social Aspects Info Tech  credit: 3 Hours.
Same as INFO 202 and MACS 202. See INFO 202.
This course satisfies the General Education Criteria for:
Social Beh Sci - Soc Sci

IS 310  Computing in the Humanities  credit: 3 Hours.
Explores use and application of technology to scholarly activity in the humanities, including projects that put classic texts on the web or create multimedia application on humanities topics. Same as INFO 310.
Prerequisite: Sophomore standing.

IS 351  The Design of Usable Information Interfaces  credit: 3 Hours.
Examines issues of Human Computer Interaction and the design of better computer interfaces. Prerequisite: Sophomore standing.

IS 390  Special Topics in Information Studies  credit: 1 to 3 Hours.
Directed and supervised investigation of selected topics in information studies that may include among others computers and culture; information policy; community information systems; production, retrieval and evaluation of scientific or social science knowledge; computer-mediated communication; and computer-supported cooperative work.
May be repeated. Prerequisite: Sophomore standing.

IS 403  Literature and Resources for Children  credit: 2 to 4 Hours.
Evaluation, selection and use of books and other resources for children (ages 0-14) in public libraries and school media centers; explores standard selection criteria for print and nonprint materials in all formats and develops the ability to evaluate and promote materials according to their various uses (personal and curricular) and according to children's various needs (intellectual, emotional, social and physical).
3 undergraduate hours. 2 or 4 graduate hours. Prerequisite: For undergraduates, junior or senior standing and consent of instructor.

IS 404  Literature and Resources for Young Adults  credit: 2 to 4 Hours.
Evaluation, selection and use of books and other resources for young adults (ages 12-18) in public libraries and school media centers; explores standard selection criteria for print and nonprint materials in all formats and develops the ability to evaluate and promote materials according to their various uses (personal and curricular) and according to young adults' various needs (intellectual, emotional, social and physical).
3 undergraduate hours. 2 or 4 graduate hours. Prerequisite: For undergraduates, junior or senior standing and consent of instructor.

IS 409  Storytelling  credit: 2 to 4 Hours.
Fundamental principles of the art of storytelling including techniques of adaptation and presentation; content and sources of materials; methods of learning; practice in storytelling; planning the story hour for school and public libraries and other public information settings; and audio, video, and digital media.
3 undergraduate hours. 2 or 4 graduate hours. Prerequisite: For undergraduates, junior or senior standing and consent of instructor.

IS 418  Community Engagement  credit: 3 or 4 Hours.
Community engagement refers to the multiple ways that information professionals in libraries and other settings learn about, collaborate with, and provide service and outreach to community members. Provides an introduction to, and overview of, community engagement theory and practice. A significant portion of coursework will take the form of service learning or community-based research via approved projects that match students' interests.
3 undergraduate hours. 4 graduate hours.

IS 445  Information Books and Resources for Youth  credit: 2 to 4 Hours.
Evaluation, selection and use of information books and other resources for young people (ages 0-18) in public libraries and school media centers; explores standard selection criteria for factual print and nonprint materials in all formats and develops the ability to evaluate and promote nonfiction books and resources according to their various uses (personal and curricular) and according to young people's various needs (intellectual, emotional, social and physical).
3 undergraduate hours. 2 or 4 graduate hours.

IS 446  Fantasy Literature and Media for Youth  credit: 2 to 4 Hours.
The selection and evaluation of historical and contemporary fantasy literature and media for library collections aimed at children and young adults. Texts examined will include books, movies, and games.
3 undergraduate hours. 2 or 4 graduate hours.

IS 451  Introduction to Network Information Systems  credit: 4 Hours.
Hands-on introduction to technology systems for use in information environments. The course steps students through choosing, installing, and managing computer hardware and operating systems, as well as networking hardware and software. The course also explores alternatives for administering IT and how to assess emerging technologies and their applicability to library settings. While students are expected to have basic computer competencies per the School of Information Sciences admissions requirements, the goal of the course is to provide practical detailed knowledge of the technology for all levels of competency. The primary objective is to provide a conceptual understanding of the topics of the day through concrete hands-on examples of implementation. By learning the underlying concepts, students will be better prepared to help design networked systems that not only work well today, but also develop systems that can be easily adapted for the needs and technologies of tomorrow. Additional fees may apply. See Class Schedule. 4 undergraduate hours. 4 graduate hours.

IS 452  Foundations of Information Processing  credit: 2 or 4 Hours.
Covers common data, document processing, and programming constructs and concepts. Focuses on problem solving and abstraction with a programming language. By the end of the course students will be able to design, develop and test a moderately complex computer program to manage full text, bibliographic records or multimedia. The course prepares students for working with applications in data analytics, data science, digital libraries, text mining and knowledge management. No prior programming background is assumed. 4 undergraduate hours. 2 or 4 graduate hours.

IS 453  Systems Analysis and Management  credit: 3 or 4 Hours.
Covers how to evaluate, select and manage information systems that will be used in the daily operation of libraries and information centers. Includes the systems used by technical staff and the information consumers. Course will focus on information as a product. Attention is given to the operation of an organization as a whole and the impact of change on the integration of resources, work flow and usability. Formal methods for modeling systems, and industry practice techniques of analysis are used to address these problems and opportunities.
3 undergraduate hours. 4 graduate hours.
IS 456 Information Storage and Retrieval credit: 3 or 4 Hours.
Introduces problems of document representation, information need specification, and query processing. Describes the theories, models, and current research aimed at solving those problems. Primary focus is on bibliographic, text, and multimedia records. 3 undergraduate hours. 4 graduate hours.

IS 457 Introduction to Data Science credit: 4 Hours.
This course introduces students to data science approaches that have emerged from recent advances in programming and computing technology. They will learn to collect and use data from a variety of sources, including the web, in a modern statistical inference and visualization paradigm. The course will be based in the programming language R, but will also use HTML, regular expressions, basic Unix tools, XML, and SQL. Supervised and unsupervised statistical learning techniques made possible by recent advances in computing power will also be covered. 4 undergraduate hours. 4 graduate hours.

IS 458 Instructional Strategies and Techniques for Information Professionals credit: 2 to 4 Hours.
Provides an introduction to learning theories and instructional methods used in a variety of information settings, including libraries, archives, museums, online, and educational environments. Includes an overview of theoretical and applied research and discusses relevant issues and concepts. Students will have an opportunity to design and present an instructional program. 3 undergraduate hours. 2 or 4 graduate hours.

IS 461 Museum Informatics credit: 4 Hours.
The course examines various ways that information technologies are and might be used in museums and other cultural heritage settings. Museum websites, visitor apps, interactive exhibits, and uses of digitized and federated collections are explored. Students gain an introduction to Design Thinking by working on a final project that involves the development of a novel computational resource. Students are encouraged to approach class topics from their individual backgrounds in the humanities, sciences, or social sciences. 4 undergraduate hours. 4 graduate hours. Prerequisite: Junior or senior standing and consent of instructor for undergraduates; consent of instructor for non-iSchool graduate students for on-campus sections.

IS 462 Information Assurance credit: 3 or 4 Hours.
The course provides an introduction to the concepts, technologies, practices and challenges of Information Assurance. It takes a broad view of Information Security and Privacy and covers the essential principles for the protection of information systems; the relevant technologies; organizational concerns; policies, human aspects; legal approaches; criminology; and ethical issues. Students will gain an appreciation for the difficulty of designing, developing, deploying and maintaining information systems, services and software products that are secure and comply with expectations of security and privacy. 3 undergraduate hours. 4 graduate hours.

IS 482 Writing Technologies credit: 3 or 4 Hours.
Same as ENGL 482. See ENGL 482.

IS 483 Ugrad Bioinformatics Seminar credit: 0 to 2 Hours.
Same as CPSC 491 and INFO 491. See INFO 491.

IS 490 Advanced Topics in Information Studies credit: 2 to 4 Hours.
Directed and supervised investigation of selected topics in information studies that may include among others the social, political, and historical contexts of information creation and dissemination; computers and culture; information policy; community information systems; production, retrieval and evaluation of knowledge; computer-mediated communication. Additional fees may apply. See Class Schedule. 2 to 4 undergraduate hours. 2 to 4 graduate hours. May be repeated. Prerequisite: For undergraduates, junior standing and IS 202, or consent of instructor.

IS 501 Information Organization and Access credit: 4 Hours.
Emphasizes information organization and access in settings and systems of different kinds. Traces the information transfer process from the generation of knowledge through its storage and use in both print and non-print formats. Consideration will be given to the creation of information systems: the principles and practice of selection and preservation, methods of organizing information for retrieval and display, the operation of organizations that provide information services, and the information service needs of various user communities. 4 graduate hours. No professional credit. Required M.S. in library and information science degree core course.

IS 502 Libraries, Information and Society credit: 2 or 4 Hours.
Explores major issues in the library and information science professions as they involve their communities of users and sponsors. Analyzes specific situations that reflect the professional agenda of these fields, including intellectual freedom, community service, professional ethics, social responsibilities, intellectual property, literacy, historical and international models, the socio-cultural role of libraries and information agencies and professionalism in general, focusing in particular on the interrelationships among these issues. 2 or 4 graduate hours. No professional credit. Prerequisite: Required M.S. in library and information science degree core course.

IS 503 Use and Users of Information credit: 4 Hours.
Explores information needs and uses at a general level, addressing formal and informal information channels, barriers to information, issues of value, and impacts of technology. Examines information seeking practices of particular communities and within various environments, introducing recent approaches to user-centered system design and digital library development. Provides an overview of methods that can be used to study information needs, information seeking behavior, and related phenomena. 4 graduate hours. No professional credit. Prerequisite: IS 501.

IS 504 Reference and Information Services credit: 4 Hours.
Explores reference and information services in a variety of settings, introduces widely used print and online sources, and develops question negotiation skills and search strategies. 4 graduate hours. No professional credit.

IS 505 Administration & Management of Libraries and Information Centers credit: 4 Hours.
Designed to explore the principles that govern how organizations and institutions work, this course provides a foundation for and introduction to the theories, practices and procedures involved in the management and administration of libraries and information centers. 4 graduate hours. No professional credit.
IS 506 **Youth Services Librarianship** credit: 4 Hours.
Theory and techniques in planning, implementing and evaluating library programs/services for youth (age 0-18) in public and school libraries/media centers; the knowledge base, skills, and competencies needed by the library media professional in the development of all aspects of young people's reading/viewing/listening and information literacy skills. 4 graduate hours. No professional credit.

IS 507 **Introduction to Bibliographic Metadata** credit: 4 Hours.
Introduction to basic principles and concepts of descriptive and subject cataloging in the context of information service needs for various user communities. Explores principles, structures, standards, technologies and practices relating to organizing and creating access to print and non-print media. Includes coverage of subject analysis and descriptive practices. Introduces controlled vocabularies. 4 graduate hours. No professional credit. Prerequisite: IS 501, or concurrent enrollment in IS 501 and IS 507.

IS 508 **Collection Development** credit: 4 Hours.
Examines issues affecting the development and management of collections for academic, public, special, and school libraries: collection development policies, collection assessment, the marketplace, publishing, legal issues, and budget allocation; document delivery; collaboration and cooperation. 4 graduate hours. No professional credit. Prerequisite: IS 501, or concurrent enrollment in IS 501 and IS 508.

IS 510 **Adult Public Services** credit: 4 Hours.
The literature, history, and problems of providing library service to the general adult user; investigation of user characteristics and needs, and the effectiveness of various types of adult services. 4 graduate hours. No professional credit.

IS 511 **Bibliography** credit: 2 or 4 Hours.
Covers enumerative bibliography, the practices of compiling lists; analytical bibliography, the design, production, and handling of books as physical objects; and historical bibliography, the history of books and other library materials, from the invention of printing to the present. 2 or 4 graduate hours. No professional credit. Prerequisite: Consent of instructor.

IS 512 **History of Libraries** credit: 2 or 4 Hours.
The origins, development, and evolution of libraries and related institutions, from antiquity to the twentieth century, as a reflection of literacy, recognition of archival responsibility, humanistic achievement, scientific information needs, and service to society. Same as MDIA 512. 2 or 4 graduate hours. No professional credit.

IS 514 **History of Children's Lit** credit: 2 or 4 Hours.
Interpretation of children's literature from the earliest times, including the impact of changing social and cultural patterns on books for children; attention to early printers and publishers of children's books and to magazines for children. 2 or 4 graduate hours. No professional credit.

IS 515 **Media Literacy for Youth** credit: 2 or 4 Hours.
Provides students with theoretical knowledge and practical methods useful to librarians and other professionals working with young people and media. Building on traditional understandings of literacy, media literacy explores the consumption and production of diverse types of texts including print, images, games, and music. Topics for this course may include the role of race in media, media literacy as a catalyst for social change, and intellectual property issues related to media education. 2 or 4 graduate hours. No professional credit.

IS 516 **School Library Media Center** credit: 2 or 4 Hours.
School Library Information Specialists serve children and young adults (ages 5-18) in K-12 school library media centers. Students will acquire specific knowledge, skills and competencies needed to design, develop, integrate and assess curriculum and instruction with an emphasis on the information needs of K-12 students. Readings and projects provide students with opportunities to apply the practical knowledge and skills they have learned about building reading literacy, teaching information literacy skills, collaborating with teachers and integrating resources into teaching and learning. 2 or 4 graduate hours. No professional credit.

IS 518 **Community Informatics** credit: 4 Hours.
Survey of an emerging field that studies how local, historical communities use information and communication technologies or otherwise access, create, organize, and share information. Covers key principles for working in libraries or the wider non-profit/public sectors as individuals, organizations, and communities harness new technologies and media. Prepares both professionals and researchers, whatever their technology background. Especially useful for those interested in public or community libraries, youth services, university public engagement, social work, education, and anyone interested in working with or studying underserved communities. 4 graduate hours. No professional credit.

IS 519 **Soc Sc Research in LIS** credit: 4 Hours.
Introduces students to the fundamentals of doing social science research in LIS. Students will learn how to frame a research problem, choose an appropriate research method, apply it, and write up the research for presentation and publication. 4 graduate hours. No professional credit.

IS 522 **Information Sources and Services in the Sciences** credit: 2 or 4 Hours.
Overview of the information needs and practices of researchers, practitioners, and the general public. Detailed consideration of disciplinary literatures and print and electronic reference materials. Advanced training in addressing reference questions and research problems in the sciences. 2 or 4 graduate hours. No professional credit. Prerequisite: IS 504 or consent of instructor.

IS 523 **Information Sources and Services in the Social Sciences** credit: 2 or 4 Hours.
Overview of the information needs and practices of researchers, practitioners, and the general public. Detailed consideration of disciplinary literatures and print and electronic reference materials. Advanced training in addressing reference questions and research problems in the social sciences. 2 or 4 graduate hours. No professional credit. Prerequisite: IS 504 or consent of instructor.

IS 524 **Information Sources and Services in the Arts and Humanities** credit: 2 or 4 Hours.
Overview of the information needs and practices of researchers, practitioners, and the general public. Detailed consideration of disciplinary literatures and print and electronic reference materials. Advanced training in addressing reference questions and research problems in the arts and humanities. 2 or 4 graduate hours. No professional credit. Prerequisite: IS 504 or consent of instructor.

IS 525 **Government Information** credit: 4 Hours.
Aims to acquaint students with government publications, their variety, interest, value, acquisition, and bibliographic control, and to develop proficiency in their reference and research use; considers publications of all types and all governments (local, national, international) with special emphasis on U.S., state and federal governments, and on the United Nations and its related specialized agencies. 4 graduate hours. No professional credit. Prerequisite: IS 504 or consent of instructor.
IS 526  Searching Online Information Systems  credit: 2 or 4 Hours.
Explores the state-of-the-art in online information retrieval systems, with particular emphasis on their use as part of reference service in libraries; acquaints students with the characteristics of both bibliographic and nonbibliographic databases; and trains students in the use of at least one currently available online retrieval system. 2 or 4 graduate hours. No professional credit. Prerequisite: IS 504 or consent of instructor.

IS 527  Literacy, Reading, and Readers  credit: 4 Hours.
Reading and literacy play a central role in all areas of LIS, as well as in education, communication, literature, and writing studies. This course considers reading as a physical, social, and educational activity that is historically and culturally situated. It provides a multidisciplinary investigation into different forms of literacy and how people acquire them. Drawing upon scholarship in LIS, education, literature, history, sociology, psychology, and anthropology, and with special consideration given to age, gender, class, religion, and culture, we will expand upon traditional notions of literacy and explore the range of scholarly approaches to the study of literacy, reading, and readers. For assignments, students choose between an experiential track, which offers practical experience through volunteer work in a literacy tutoring position, or a scholarship track, which features a research project without a volunteer component. All students have the same weekly readings and share knowledge gained from their volunteer placement and research. 4 graduate hours. No professional credit.

IS 528  Adult Popular Literature  credit: 2 or 4 Hours.
A survey of genre fiction, readers' advisory services, the promotion of fiction, narrative nonfiction & media collections in libraries, the social effects of reading, and publishing as a business. Course objectives include: understanding why adults read for pleasure; gaining familiarity with popular fiction genres and their authors; understanding principles and tools of readers' advisory services; examining the issues of popular fiction publishing including the impact of technology in creating new formats; and the process of acquisition, maintenance, and marketing of popular fiction in libraries. 2 or 4 graduate hours. No professional credit.

IS 530  Information Needs of Particular Communities  credit: 2 or 4 Hours.
Special topics sections for in-depth study of the characteristics and information needs of specialist users of libraries; goals and objectives, policies, and services; reference and bibliographical aids; and effective services that satisfy these special needs. 2 or 4 graduate hours. No professional credit. May be repeated. Prerequisite: IS 504 or consent of instructor.

IS 531  Foundations of Data Curation  credit: 4 Hours.
Data curation is the active and on-going management of data through its lifecycle of interest and usefulness to scholarship, science, and education; curation activities and policies enable data discovery and retrieval, maintain data quality and add value, and provide for re-use over time. This course provides an overview of a broad range of theoretical and practical problems in the emerging field, examining issues related to appraisal and selection, long-lived data collections, research lifecycles, workflows, metadata, and legal and intellectual property issues. 4 graduate hours. No professional credit.

IS 532  Theory & Practice of Data Cleaning  credit: 4 Hours.
Data cleaning (also: cleansing) is the process of assessing and improving data quality for later analysis and use, and is a crucial part of data curation and analysis. This course identifies data quality issues throughout the data lifecycle, and reviews specific techniques and approaches for checking and improving data quality. Techniques are drawn primarily from the database community, using schema-level and instance-level information, and from different scientific communities, which are developing practical tools for data pre-processing and cleaning. Same as CS 513. 4 graduate hours. No professional credit.

IS 534  Data Policy Seminar  credit: 4 Hours.
This course will survey recent policy changes and the literature regarding scientific data, including archiving, repositories, legal encumbrances and access, the lifecycle of data, and strategies for reporting data 4 graduate hours. No professional credit.

IS 537  Race, Gender, and Sexuality in the Information Professions  credit: 2 Hours.
This course examines how issues of race, gender and sexuality are represented in information professions and will study how they affect, and are affected by, information technologies. Socially constructed (mis)representations (or lack of representations) of race, gender and sexual identity will be critically examined in different settings as they intersect, overlap, and impact the information use, technology practices, and the design of information resources and services in the library and information science and related fields. 2 graduate hours. No professional credit. Prerequisite: Restricted to LIS graduate students.

IS 538  Competitive Intelligence & Knowledge Management  credit: 4 Hours.
This course is designed to provide fundamental knowledge in providing research services and also introduce the latest trends and innovative approaches in research services. Information professionals are increasingly being challenged to provide not just data but insights and recommendations that are critical for strategic decision making. Using methodologies widely adopted by professional firms and researchers, this course will cover basics of research consulting including framing research problems, developing deliverables, and presenting professionally. 4 graduate hours. No professional credit.

IS 539  Information Consulting  credit: 4 Hours.
This course is designed to provide fundamental knowledge in providing research services and also introduce the latest trends and innovative approaches in research services. Information professionals are increasingly being challenged to provide not just data but insights and recommendations that are critical for strategic decision making. Using methodologies widely adopted by professional firms and researchers, this course will cover basics of research consulting including framing research problems, developing deliverables, and presenting professionally. 4 graduate hours. No professional credit.

IS 540  Applied Business Research  credit: 4 Hours.
As an experiential learning class, this course covers advanced techniques of business research with an emphasis on managing real-world client projects. Students will be assigned to teams and work with clients to identify research requirements and construct recommendations. Students will acquire critical skills in creating professional deliverables through client engagements. Students will build professional research portfolios at the conclusion of their projects. 4 graduate hours. No professional credit. May be repeated in separate terms up to 8 hours if topics vary. Prerequisite: Instructor approval required.
IS 542 Data, Statistical Models and Information credit: 4 Hours.
An introduction to statistical and probabilistic models as they pertain to quantifying information, assessing information quality, and principled application of information to decision making, with focus on model selection and gauging model quality. The course reviews relevant results from probability theory, parametric and non-parametric predictive models, as well as extensions of these models for unsupervised learning. Applications of statistical and probabilistic models to tasks in information management (e.g. prediction, ranking, and data reduction) are emphasized. 4 graduate hours. No professional credit. Prerequisite: Graduate standing.

IS 543 Sociotechnical Information Systems credit: 4 Hours.
The character, success, and costs/benefits of information technologies are socio-technical matters. Because of this, best practice for IT design and integration relies on participants’ ability to understand and create for the totality of those settings, including social and technical dimensions. This course provides students with analytic tools for examining socio-technical settings and experience in applying that knowledge in IT modeling, design and management. 4 graduate hours. No professional credit.

IS 544 Library Cooperation & Networks credit: 4 Hours.
Development of library systems, with special reference to public libraries as a norm for the development of library services; detailed treatment of library standards, the growth and development of county and regional libraries, and the role of the state library and of federal legislation. 4 graduate hours. No professional credit. Prerequisite: IS 505 or consent of instructor.

IS 545 Social Justice in the Information Professions credit: 2 Hours.
This course is intended to provide a historic and contemporary overview of social justice and advocacy work in librarianship. The course will be primarily focused on activities in the United States, though international movements and perspectives will be addressed. Topics include: desegregation of libraries and professional associations; recruitment and retention of library workers from traditionally underrepresented populations; library outreach; intellectual freedom; and emerging critical theories and issues in the field. 2 graduate hours. No professional credit. Prerequisite: IS 505 or consent of instructor.

IS 546 Intellectual Freedom and Censorship credit: 2 Hours.
Examines intellectual freedom issues throughout the United States and the world. Approaches intellectual freedom as an ethical issue based in interpretations of the First Amendment and the United Nations Declaration of Human Rights. The course encourages information professionals to view commitment to intellectual freedom as a core professional value and gives students the opportunity to develop skills and strategies needed to navigate censorship controversies in the workplace. 2 graduate hours. No professional credit. Prerequisite: IS 502 or consent of instructor.

IS 547 Information Services for Diverse Populations credit: 2 or 4 Hours.
This course is designed to prepare future information professionals to develop and provide inclusive services to underrepresented populations, and to analyze and evaluate services to ensure equality of access to information in a range of institutional settings. Through readings, discussion, guest lectures, and site visits, students will explore diversity issues that impact information services and develop skills for planning, implementing, and evaluating programs and services for addressing these issues. Specific diversity issues include race and ethnicity; education; language; literacy; disability; gender and sexual orientation; social class; national origin; physical, psychological, and learning ability; and age. 2 or 4 graduate hours. No professional credit.

IS 548 Library Buildings credit: 2 or 4 Hours.
Studies the library’s physical plant in the light of changing concepts and patterns of library service; analyzes present-day library buildings (both new and remodeled), and their comparison with each other as well as with buildings of the past; examines the interrelationship of staff, collections, users, and physical plant; discussion supplemented by visits to new libraries and conference with their staffs. A two-day field trip is required. Additional fees may apply. See Class Schedule. 2 or 4 graduate hours. No professional credit.

IS 549 Economics of Information credit: 4 Hours.
The various definitions of information in economic and social terms as discussed in library and information science as well as other literatures are related to government public policies and social policies. Issues such as information as a commodity and as a public good are explored. The impact of the economics of information and related public policies on libraries and information centers is discussed from a national and international perspective. 4 graduate hours. No professional credit.

IS 555 Usability Engineering credit: 4 Hours.
The course provides an introduction to: issues in Human Computer Interaction; analysis of interfaces and their use; the interface design process as an engineering activity; designing usable interfaces under constraints; and the rapid prototyping and evaluation cycle. The course covers interface design in multiple contexts including websites, web-based applications, smartphone apps, regular computer apps and new contexts of interacting with computers. Elective course for the CAS in Digital Libraries concentration. 4 graduate hours. No professional credit.

IS 556 Implementation of Information Storage and Retrieval Systems credit: 4 Hours.
Engages the design, deployment and evaluation of information retrieval systems in a variety of environments. Emphasis is twofold. First, students will study advance methods of query and document representation and related formalisms for performing retrieval. Second, students will work with a variety of data sets and several open-source information retrieval and information analysis software suites. The course is intended to extend students’ understanding of state-of-the art search and retrieval methods. 4 graduate hours. No professional credit. Prerequisite: IS 452 (either the 2 credit hours or the 4 credit hours are acceptable) and IS 456.

IS 559 Network Analysis credit: 4 Hours.
Network Analysis has become a widely adopted method for studying the interactions between social agents, information and infrastructures. The strong demand for expertise in network analysis has been fueled by the widespread acknowledgement that everything is connected and the popularity of social networking services. This interdisciplinary course introduces students to fundamental theories, concepts, methods and applications of network analysis in a practical manner. Students learn and practice hands-on skills in collecting, analyzing and visualizing network data. 4 graduate hours. No professional credit.

Information listed in this catalog is current as of 03/2018
IS 560 Digital Libraries credit: 4 Hours.
A comprehensive examination of the history and state-of-the-art in digital library research and practice. Focuses upon the theoretical, technological, human factors and evaluative components of digital library research and practice. Course includes an intensive reading of the literature, review of existing technologies and proof-of-concepts implementation projects. Students should have access to a personal computer on which they can experiment on their own with downloaded software tools. Students must be competent in basic computing including the installation and configuration of software packages. 4 graduate hours. No professional credit. Prerequisite: IS 501 or consent of instructor; previous or concurrent enrollment in IS 452 (either the 2 credit hours or the 4 credit hours of IS 452 are acceptable), or proof of competency in programming.

IS 561 Information Modeling credit: 4 Hours.
An introduction to the foundations of information modeling methods used in current digital library applications. The specific methods considered include relational database design, conceptual modeling, markup systems, and ontologies. The basic concepts underlying these methods are, respectively, relations, entities, grammars, and logic. Implementations include relational database design, ER/ERUML diagrams, XML markup languages, and RDF/OWL semantic web languages. First order logic is emphasized throughout as the foundational framework for information modeling in general, and for contemporary web-based information management and delivery systems (including semantic web technologies) in particular. 4 graduate hours. No professional credit.

IS 562 Metadata in Theory & Practice credit: 4 Hours.
Combines theoretical examination of the design of metadata schema with their practical application in a variety of settings. Hands-on experience in the creation of descriptive, administrative, and structural metadata, along with their application in systems such as OAI harvesting, OpenURL resolution systems, metasearch systems and digital repositories, will help students develop a thorough understanding of current metadata standards as well as such issues as crosswalking, metadata schema, metadata's use in information retrieval and data management applications, and the role of standards bodies in metadata schema development. 4 graduate hours. No professional credit. Prerequisite: IS 501 or consent of instructor.

IS 563 Academic Librarianship credit: 4 Hours.
Introduces the higher education environment in which academic librarians and other information professionals operate in order to prepare students for leadership roles both within academic libraries and in their parent institutions. This course explores academic librarianship through a variety of lenses including: history and organization of higher education; accreditation; characteristics of students; roles of faculty and other campus professionals; and current issues and challenges. 4 graduate hours. No professional credit.

IS 564 Theological Librarianship credit: 2 or 4 Hours.
Provides an overview of the contexts, materials, services, and issues characterizing theological librarianship. Students interact with a number of librarians currently working in the field. 2 or 4 graduate hours. No professional credit.

IS 565 Financial Management credit: 4 Hours.
Designed to familiarize the student with the basic principles of library financial administration, including budgeting and planning within the mission and goals of the organization. Provides an orientation to the variety of financial management techniques appropriate for libraries and information centers, with an emphasis on sources for obtaining financial support, controlling expenditures, creating and controlling budgets, financial decision making and exploring specific financial and budgetary problems for the major operational areas of libraries - public services, technical services, information technology and facilities. 4 graduate hours. No professional credit.

IS 566 History of the Book credit: 4 Hours.
Explores the role of the book in the production and transmission of knowledge through time. Major themes include the design, materiality, and performance of reading and writing technologies. Particular attention will be paid to the graphic representation and visualization of information across media. Students will examine different approaches to the study of books and documents, including those of palaeography, diplomatics, bibliology, art history, musicology, textual criticism, digital humanities, and new media studies. 4 graduate hours. No professional credit.

IS 567 Medieval Manuscripts and Early Modern Books credit: 2 Hours.
This course explores a wide variety of medieval manuscripts from their creation in the Middle Ages to today and considers the following topics: production of manuscripts, use of books and their cultural significance, patronage and demand for books, translations, literacy, book collecting, libraries and reproduction in the modern age. The course will include visits to the Rare Book and Manuscript Library and hands-on experience with manuscripts. 2 graduate hours. No professional credit.

IS 568 Discussion, Criticism and Theory in the History of the Book credit: 2 Hours.
A seminar on theoretical and applied approaches to cataloging, including the creation and management of complex descriptive and subject metadata. Topics include current developments in conceptual models for bibliographic materials; information processing and mapping; socio-cultural and critical warrant; and ethical foundations of information organization. Students will engage critically with principles and practices in the application of bibliographic standards in a variety of contexts. 2 graduate hours. No professional credit. Prerequisite: IS 501 or consent of instructor.

IS 569 Technical Services Functions credit: 4 Hours.
Seminar on the principles, problems, trends, and issues of acquiring, identifying, recording, and conserving/preserving materials in all types of libraries and information centers; includes the special problems of serials management; emphasizes service aspects. 4 graduate hours. No professional credit.

IS 570 Rare Book and Special Collections Librarianship credit: 2 Hours.
Designed as a practical introduction to Rare Book and Special Collections Librarianship, to cover for the neophyte as well as the experienced librarian the many issues of these departments' responsibilities, including selection, acquisition, receiving, cataloging, processing, shelving, circulation, inter-library loan, reference, preservation and conservation, security, exhibition, publication, and so forth, including the uses of information technology. 2 graduate hours. No professional credit.
IS 581 Administration and Use of Archival Materials  credit: 4 Hours. 
Administration of archives and manuscript collections in various types of 
institutions. Theoretical principles and archival practices of appraisal, 
acquisition, accessioning, arrangement, description, preservation, and 
reference services. Topics will include: records management programs, 
collecting archives programs/special collections, legal and ethical issues, 
public programming and advocacy, and the impact of new information 
technologies for preservation and access. Lectures, discussion, internet 
demonstration, and field trips to the Special Collections Department and 
University Archives. 4 graduate hours. No professional credit.

IS 582 Preserving Info Resources  credit: 4 Hours. 
Covers the broad range of library preservation and conservation for 
book and nonbook materials relating these efforts to the total library 
environment; emphasizes how the preservation of collections affects 
collection development and management, technical services, access to 
materials and service to users. 4 graduate hours. No professional credit.

IS 583 Grad Bioinformatics Seminar  credit: 1 to 2 Hours. 
Same as CPSC 591 and INFO 591. See INFO 591.

IS 584 Archival Arrangement and Description  credit: 2 Hours. 
Provides seminar discussions and a hands-on processing experience that 
apply current theories and practices utilized to solve the most common 
problems that are encountered by today's archivists and curators when 
arranging and describing historical records, archives, manuscripts, and 
artifacts. Issues of intellectual and physical arrangement, description, 
and access are addressed. 2 graduate hours. No professional credit.

IS 585 International Librarianship  credit: 4 Hours. 
Focuses on international librarianship (how librarians communicate on 
international issues) and how that differs from comparative librarianship 
(the comparative study of library services in specific contexts). Examines 
how concepts such as "one-world" and "free flow of information" 
are valid in the international information arena; the importance of 
internationalizing library education; the role of international information 
agencies and the need for formulating information policies. Local 
and regional issues relating to library and information science are studied in 
the context of global issues. 4 graduate hours. No professional credit.

IS 586 Digital Preservation  credit: 4 Hours. 
Examines current problems with and approaches to digital preservation 
that are fundamental to the long-term accessibility of digital materials. 
Examines the range of current research problems, along with emerging 
methods and tools, and assesses a variety of organizational scenarios to 
plan and implement a preservation plan. Topics include basic information 
theory, preservation of complex digital objects; standards and 
specifications; sustainability and risk assessment; authenticity, integrity, 
quality control, and certification; and management of preservation 
activities. 4 graduate hours. No professional credit.

IS 587 History and Foundations of Library and Information Science 
credit: 4 Hours. 
This required course for all first-semester library and information science 
(LIS) doctoral students introduces students to the historical foundations of 
LIS. Examinations of the interactions of socio-cultural, technological 
and professional factors underlying the emergence of LIS provide a 
basis for exploring more recent developments in theory and practice. 4 
graduate hours. No professional credit. Prerequisite: LIS doctoral student 
in their first semester.

IS 588 Research Design in Library and Information Science  credit: 4 Hours. 
Provides an introduction to the design of LIS research, beginning with 
an in-depth consideration of the philosophical and logical underpinnings 
of research. A brief survey of different methods used in LIS research 
is followed by an exploration of research design issues through 
comparative hands-on exercises. Throughout the course, the emphasis 
will be on research design choices, especially the connections between 
research questions and research methods. Required Ph.D. course. 4 
grade hours. No professional credit.

IS 590 Advanced Problems in Information Sciences  credit: 1 to 4 Hours. 
Variety of newly developed and special topics courses on different 
aspects of the information sciences intended to augment the existing 
curriculum, offered as sections of IS 590. Additional fees may apply. See 
Class Schedule. 1 to 4 graduate hours. No professional credit. May be 
repeated.

IS 591 Practicum  credit: 2 Hours. 
Supervised field experience of professional-level duties in an approved 
library or information center. 2 graduate hours. No professional credit. 
Approved for S/U grading only. A maximum of 2 hours may be applied 
toward a degree program. Prerequisite: Completion of 14 graduate hours 
of information sciences courses; submission of Practicum forms.

IS 592 Independent Study  credit: 2 to 4 Hours. 
Permits the intermediate or advanced student opportunity to undertake 
the study of a topic not otherwise offered in the curriculum or to pursue 
a topic beyond or in greater depth than is possible within the context 
of a regular course. 2 to 4 graduate hours. No professional credit. May 
be repeated by M.S. students to a maximum of 4 graduate hours; CAS 
students, a maximum of 8 graduate hours; Ph.D. students, a maximum 
of 16 graduate hours. Prerequisite: Submission of "Request to Enroll in 
IS 592" form.

IS 593 CAS Project  credit: 0 to 8 Hours. 
Individual study of a problem in library and information science; forms 
the culmination of the Certificate of Advanced Study program. 0 to 
8 graduate hours. No professional credit. Approved for S/U grading 
only. May be repeated. Only eight hours will apply to the Certificate of 
Advanced Study. Prerequisite: Admission to Certificate of Advanced 
Study program in library and information science; submission of "Request 
to Enroll in IS 593 - CAS Project" form.

IS 594 Information Sciences Practice  credit: 0 Hours. 
Full-time or part-time practice of of any information sciences in an 
off-campus information science environment. 0 graduate hours. No 
professional credit. Approved for S/U grading only. May be repeated. 
Prerequisite: IS students only.

IS 599 Thesis Research  credit: 0 to 16 Hours. 
Individual study and research. 0 to 16 graduate hours. No professional 
credit. Approved for S/U grading only. May be repeated. M.S. candidates, 
0 to 8 hours. Doctoral candidates, 0 to 16 hours. Prerequisite: MS 
students must submit a "Request to Enroll in IS 599 - Master's Thesis" 
form.