May 14, 2015

MEMORANDUM

TO: Jennifer Preece
   Dean, College of Information Studies

FROM: Elizabeth Beise
       Associate Provost for Academic Planning and Programs

SUBJECT: Proposal to Modify the Master of Library Science – Community Analytics and Policy Specialization (PCC log no. 14028)

   At its meeting on February 6, 2015, the Senate Committee on Programs, Curricula and Courses approved the proposal to modify the Master of Library Science – Community Analytics and Policy Specialization. A copy of the approved proposal is attached.

   The change is effective Fall 2015. Please ensure that the change is fully described in the Graduate Catalog and in all relevant descriptive materials.

MDC/
   Enclosure

cc: Gregory Miller, Chair, Senate PCC Committee
    Barbara Gill, Office of Student Financial Aid
    Reka Montfort, University Senate
    Erin Taylor, Division of Information Technology
    Pam Phillips, Institutional Research, Planning & Assessment
    Anne Turkos, University Archives
    Linda Yokoi, Office of the Registrar
    Alex Chen, Graduate School
    Ann Weeks, College of Information Studies
The College of Information Studies (Maryland’s iSchool) plans to replace the Government Information Management and Services (GIMS) informal specialization with the Community Analytics and Policy (CAP) specialization, one of the informal specializations in the Master of Library Science (MLS) program, to offer an updated, more competitive set of courses that bring in more diversity, usability, and policy curriculum. It includes seven required courses that reframe the informal specialization to better align with changing government systems that have put information and data online.
PROPOSAL FOR
MODIFICATION OF SPECIALIZATION (INFORMAL)
UNIVERSITY OF MARYLAND AT COLLEGE PARK, MARYLAND
COMMUNITY ANALYTICS & POLICY SPECIALIZATION FOR
MASTER OF LIBRARY SCIENCE DEGREE

COLLEGE OF INFORMATION STUDIES
DEAN JENNIFER PREECE

SPECIALIZATION _COMMUNITY ANALYTICS & POLICY SPECIALIZATION___
FOR DEGREE PROGRAM ___MASTER OF LIBRARY SCIENCE___

Proposed Initiation Date: ______ FALL 2015 _______
I. ABSTRACT

The Master of Library Science (MLS) degree program at the College of Information Studies (iSchool) offers a number of informal specializations designed to advise students of the many ways to complete their coursework for graduation. These informal specializations serve as pathways through the degree program and are based upon professional areas of expertise in the library and information science field.

The proposed Community Analytics and Policy (CAP) specialization focuses on the nature of developing local data infrastructures designed to promote civic engagement at the community level, and the roles that libraries can play in supporting that engagement. Replacing the Government Information Management and Services (GIMS) specialization, this specialization focuses on the nature of open data and information; the ability of the public to be informed about local issues through open government and data; the ways in which information professionals can serve as key community-based intermediaries between governments, the public, and local issues; the curation and management of digital assets, particularly datasets; the ability to create and foster data-driven communities of practice; and the role of the political process and information policy in shaping the development of community data.

This revised specialization offers an updated, more competitive set of courses that reframe the informal specialization to better address the role libraries and information organizations play at the intersections of government, civic organizations, neighborhoods, and the public. A summary of changes can be found, below, in Table 1 (changes noted in bold).

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<thead>
<tr>
<th>Current Specialization Courses (GIMS)</th>
<th>Proposed Specialization Courses (CAP)</th>
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<tbody>
<tr>
<td>• INST 612 Information Policy</td>
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<tr>
<td>• LBSC 620 Diverse Populations, Inclusion, and Information</td>
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<tr>
<td>• LBSC 708J Planning and Evaluation for Government Information Services</td>
<td>• LBSC 622 Information and Universal Usability</td>
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<tr>
<td>• LBSC 708K E-Librarianship</td>
<td>• INST 627 Data Analytics for Information Professionals</td>
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<tr>
<td>• LBSC 735 Legal Issues in Managing Information</td>
<td>• INST 733 Database Design</td>
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<tr>
<td>• LBSC 767 Access to Federal Government Information</td>
<td>• INST 714 Information for Decision-Making</td>
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Table 1: Proposed Changes to Specialization Courses
II. OVERVIEW and RATIONALE

Communities face opportunities and challenges in many areas, including education, health and wellness, workforce and economic development, housing, and the environment. Through a combination of open government, open data, and civic engagement, however, governments, citizens, civil society groups, and others are creating data-driven means to promote openness and transparency—and fostering engagement within communities informed by data. Underlying this openness and engagement is open data, particularly local data about community issues such as housing, air quality, graduation rates, literacy rates, poverty, disease, local government, and more.

Data—through large-scale national datasets such as Census, Bureau of Labor Statistics, Environmental Protection Agency, Centers for Disease Control that have varying levels of local granularity—have existed in key domain areas for some time. Newer data integration capabilities and analytic techniques, however, enable novel ways of viewing and analyzing data to inform policy-makers, decision-makers, stakeholders, and citizens about their communities and offer potential ways to resolve challenges, seek opportunities, and foster greater openness and transparency. In short, data—and their analysis—are increasingly central to better understanding and improving the communities in which we live.

To better prepare a growing number of library and information management students for a profession in which data is central to improving communities, the MLS Program Committee, with approval from the iSchool’s Program, Curricula, and Courses Committee (PCC), worked with faculty to reorganize the specific courses that make up the Community Analytics and Policy (CAP) informal specialization for MLS students.

The Master of Library Science (MLS) degree (36 credits) requires students to successfully complete four required core courses (12 credits) and a field study course (3 credits). The remaining 21 credits are designated as electives. While students in the MLS program are free to satisfy the elective requirements however they choose, they may select from a list of career-relevant specializations developed by the faculty and MLS committee within the College (see Appendix A). The specialization guidelines provide students with information they may use when selecting a set of electives to best meet their needs.

The list of courses for the CAP informal specialization better highlight the challenges, tools, and skills required to be successful working within the intersection of community, libraries and information centers, and the government, and better align with the learning objectives of the specialization.
III. CURRICULUM and LEARNING OUTCOMES

Developing and implementing community-oriented data programs (whether in government, civic organizations, or non-profits), requires a combination of technical skills, institutional knowledge, design abilities, and awareness of the unique nature of communities, data, and information. In the past, individuals have only been able to acquire these skills through ad-hoc or on-the-job learning.

Students graduating with this informal specialization will be able to:

• Understand the nature of open data and information; including the ability to create, analyze, access, and disseminate open data.
• Understand the role of the political process and information policy in shaping the development of community data. This includes a foundational understanding of information and data policies that can govern the collection, management, and release of open data and other government information.
• Design strategies and techniques through which information professionals can serve as key community-based intermediaries between governments, the public, and local issues. This includes strategies and techniques for intermediated information services, and understanding the design, implementation, and context of digital government services.
• Create and manage digital assets, particularly datasets. This includes the design, development, and management of datasets, metadata structure, database design, and the preservation of datasets and data products.

Students following this informal specialization must successfully complete the following seven courses. To view complete course descriptions and course learning outcomes, see Appendix B.

• INST 612 Information Policy
• INST 607 E-government: Information, Communication, and Policy
• LBSC 620 Diverse Populations, Inclusion, and Information
• LBSC 622 Information and Universal Usability
• INST 627 Data Analytics for Information Professionals
• INST 733 Database Design
• INST 714 Information for Decision-Making
IV. IMPACT

The course changes to the Community Analytics and Policy (CAP) specialization will minimally impact the MLS degree program and the iSchool. The only measurable impact of the course changes will be on advisors and MLS staff who will need to field student questions regarding the informal specialization change. MLS staff will need to update online program descriptions and highlight the changes to the informal specialization. No additional staff, resources, or facilities will be impacted.

Student impact is also expected to be minimal. Students currently enrolled in the Government Information Materials and Services (GIMS) specialization will complete the requirements of the current specialization curriculum. If students wish to pursue the new CAP curriculum, MLS faculty and staff, and iSchool advisors, will help students assess the options for transitioning to the new course set. Students entering the MLS program in or after Fall 2015 will be advised by the MLS faculty and staff, and iSchool advisors, of the requirements for the CAP informal specialization.
APPENDIX A: Master of Library Science (MLS) Program Overview

Program Description

The Master of Library Science (MLS) program at the University of Maryland, fully accredited by the American Library Association (ALA), is a professional degree that provides students with a comprehensive foundation in both research and practice in library and information science (LIS). This foundation prepares students for careers in government, archives, museums, libraries, startups, and other information dependent organizations.

The MLS program is designed for students from a wide variety of academic and career backgrounds, and is flexible enough to accommodate students working full or part-time. Students can complete their MLS degree in-person, fully online, or through a combination of online and face-to-face courses.

The Masters in Library Science Program requires 36 credit hours of academic work to be completed with a minimum 3.0 GPA within five calendar years from the first registration. At least 24 of the 36 required credits must be designated LBSC, INST, or INFM courses taken in the iSchool. Every student receiving his or her MLS must complete the MLS Core (12 credits) and either a field study (3 credits) or a thesis (9 credits). Students must also meet the requirements of his or her selected specialization.

Specializations

Each student in the MLS Program selects one specialization. Students who pursue the “Individualized Program Plan” may create their own course plan, or may select electives in one or two knowledge areas. Knowledge areas are guides to help students select appropriate courses for acquiring in-demand skill sets for common career interests.

Archives and Digital Curation

The Archives and Digital Curation specialization focuses on the creation, management and use, long-term preservation, and current and future access to records and information, both analog, and digital, in a variety of disciplines and sectors of the economy. Information is at the very heart of a modern society’s ability to learn, conduct business, recreate, and manage complex scientific, technological, industrial, and information infrastructures. It is a societal imperative that there be qualified professionals with the technical, intellectual, and social awareness required to manage complex collections of analog, born-digital, or digitized materials in a variety of organizational settings.

Community Analytics and Policy

The Community Analytics and Policy (CAP) specialization focuses on the nature of developing local data infrastructures designed to promote civic engagement at the community level, and the roles that libraries can play in supporting that engagement. Replacing the Government Information Management and Services
specialization, this new program of study will focus on the nature of open data and information; the ability of the public to be informed about local issues through open government and data; the ways in which information professionals can serve as key community-based intermediaries between governments, the public, and local issues; the curation and management of digital assets, particularly datasets; the ability to create and foster data-driven communities of practice; and the role of the political process and information policy in shaping the development of community data.

Information and Diverse Populations
Given the importance of equal access to information by all members of society, the study of information must be framed in the most inclusive terms possible. The Information and Diverse Populations (IDP) specialization focuses on instruction about and research into the design, development, provision and integration of information services, resources, technologies, and outreach that serve diverse and often under-served populations.

School Library
The School Library specialization provides candidates with a firm educational foundation in information studies while pursuing requirements for School Library (SL) certification in the state of Maryland. The mission of the SL specialization is to prepare individuals to work in K–12 environments and enable students and staff to be effective users of ideas and information. The specialization enables students to gain experience in:

- Providing intellectual and physical access to materials in all formats.
- Providing instruction to foster competence and stimulate interest in reading, viewing and using information and ideas.
- Working with other educators to design learning strategies to meet the needs of individual students.

Individualized Program Plan
The Individualized Program Plan (IPP) allows to students to design their own course of study based on their interests, career goals, and the knowledge areas in which they want to build their skills. Students who select the Individualized Program Plan have two options in planning their course work:

1. Students may select from one or more of the knowledge areas below and construct a course plan using the recommended courses the selected knowledge area(s).
   - Accessibility and Usability
   - Electronic Resource Management
   - Management and Leadership
   - Planning and Evaluation
   - User Services, Reference, and Instruction
   - Youth

2. Students may work with an advisor and/or faculty member to create a completely unique program of study.
## APPENDIX B: CAP Specialization Course Descriptions

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<th>Course</th>
<th>Description</th>
<th>Learning Outcomes</th>
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| LBSC 602 Serving Information Needs | This course focuses on the skills needed to successfully interact directly with individuals from diverse populations in the course of helping to fulfill their needs for information. We will approach this topic from a number of different directions, including information professional practice and information behavior theory. The course touches on the following topics: collection development, reference services, user education, information literacy, search strategies, and policies and ethics of the information profession. | At the completion of the course students will:  
• Demonstrate an appreciation of the role of institutions in generating and disseminating information to users.  
• Demonstrate awareness of the core values, ethics, social responsibilities, and information policy issues that affect the profession and users' lives and the roles of professional associations in supporting them.  
• Analyze the effect of technologies on resources, service delivery, and uses of collections and information resources.  
• Explain the role of information services in supporting the lifelong learning of diverse populations.  
• Analyze models and theories of user behavior and understand how they can inform the practice of serving the information needs of users from diverse populations.  
• Apply concepts, principles, and techniques of reference and user services that provide access to relevant and accurate recorded knowledge and information to various user groups.  
• Apply methods of interacting successfully with individuals of various groups using current media (face-to-face, e-mail, Web, instant messaging, etc.) to provide consultation, mediation, and guidance on their use of recorded knowledge and information (e.g., conduct successful reference interviews).  
• Explain techniques to identify, locate, evaluate, and synthesize information from various sources for use by diverse user groups.  
• Demonstrate an understanding of concepts, issues, and methods related to the evaluation, selection, and de-selection of resources.  
• Develop policies and procedures designed to assess and serve the
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| LBSC 631    | Achieving Organizational Excellence | This course focuses on providing a sound foundation in the core competencies needed to lead and manage information-based cultural institutions (i.e. libraries, archives, museums, historical societies) in the 21st century. The course provides an overview of the principles, practices, and techniques required for effective leadership and management, and focuses on innovative strategies, management responsibilities, and the skills needed to achieve and sustain high organizational performance. | At the completion of the course students will:  
  - Be familiar with the concepts and methods of principled leadership.  
  - Develop and demonstrate skills in organizational planning; program management (analysis, implementation, evaluation); and the utilization of technology-based products and services.  
  - Understand and apply sound principles in developing and utilizing human capital, financial resources, and facilities.  
  - Develop and apply principles in communications, advocacy, building partnerships and networks, and customer service. |
| LBSC 671    | Creating Information Infrastructures | This course focuses on the foundations of acquiring and managing collections, information structures, indexing and discovery systems needed by information professionals. An introduction to the theoretical concepts, trends, systems, and technologies central to the information field. | At the completion of the course students will:  
  - Demonstrate mastery of concepts, models and information structures for life-cycle management of information assets by libraries, archives, and schools.  
  - Demonstrate knowledge of the capabilities and limitations of current methods for acquisition, preservation, management, discovery and delivery of information in physical and digital form.  
  - Demonstrate proficiency in creating and applying models, schema, representations and encodings for organizing information.  
  - Demonstrate proficiency in designing and implementing information services that leverage current technologies.  
  - Demonstrate familiarity with the effects of current trends in information creation, information technology, and information use on methods for acquisition, preservation, organization, management, discovery, and delivery of information. |
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<td>LBSC 791</td>
<td>Designing Principle Inquiry</td>
<td>This course focuses on the critical analysis of the roles of information professions and institutions in integrating theory, methods, practice, policies, and values of the field, and applying them to the design of future information systems and services. This course of the MLS core requires student to integrate all their previous coursework and apply it the design of future information systems and services. This course is open to students who have successfully completed 24 credit hours of their MLS program.</td>
<td>At the completion of the course students will:</td>
<td>• Identify ways in which information contributes to cultural heritage and memory and roles of information professions and information institutions in society over time; • Define relationships between the theory, methodology, and practice of professions and disciplines; • Apply professional ethics and values to their work in information environments; • Identify and critique social, public, information, economic, and cultural policies and trends of significance to the information professions; • Apply principles of equity and inclusion to information contexts; • Understand ethics, values, and foundational principles of the information professions; • Understand laws, legal frameworks, political contexts, and policies within which libraries and information agencies operate; • Identify and evaluate challenges and opportunities for information professions or professionals from emerging technologies and innovations; • Apply theoretical and research approaches in the context of information institutions; and • Demonstrate skills in using methods of inquiry to obtain support for library programs through grant writing.</td>
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<td>LBSC 707</td>
<td>Field Study</td>
<td>This course is designed to provide students with an applied learning experience. Students engage in a supervised experience within library operations and/or the opportunity to perform a study to solve a specific problem in a suitable library or other information agency.</td>
<td>At the completion of the course students will:</td>
<td>• Gain hands-on, practical experience in a library setting/operation, with optional additional experience in solving a specific problem for that library. • Expand their knowledge and skills appropriate for an entry level professional library position. • Develop a better understanding of practical and everyday issues in a library setting. • Begin to build a professional network for support and future employment. • Clarify individual professional</td>
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<td>Goals and Strategies for Development</td>
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| INST 612    | Information Policy                               | The access, exchange, and management of information have been key recurring issues throughout the history of the United States, from the Declaration of the Independence through today. This course examines selected aspects of public policy questions that relate to information and communications, with special attention paid to complex policy issues that involve value conflicts among information ownership rights, personal privacy rights, and public access rights to information. It focuses on constitutional principles, statutory provisions, laws and regulations, and federal policies. Topics include information equity, universal service, privacy, intellectual property, censorship, and e-government. The course focuses on providing students with a fundamental understanding of the importance and impact of information policy on the information profession. | At the completion of the course students will:  
- Demonstrate a broad understanding of major information and telecommunications policy issues;  
- Demonstrate familiarity with significant literature, constitutional and statutory provisions, domestic laws, regulations and federal policies relating to information and telecommunications policy issues;  
- Describe and analyze information and telecommunications policy issues; and  
- Demonstrate an awareness of the interrelationships among key information and telecommunications policy issues such as information access rights, universal service, and privacy. |
| INST 607    | E-government: Information, Communication, and Policy | This course will examine the nature, current impacts, and potential future impacts of e-government, also known as digital government or electronic government. E-government is the use of the Internet and other information and communication technologies to provide government information and services, as well as channels of communication to citizens, businesses, and other governments. The United States and many other governments around the world at local, state, federal, and supranational levels have developed an online presence, ranging from simple information to complex services. These are collectively known as e-government. E-government as a trend is only ten years old, still largely at the stage where its actual long-term role has yet to be determined. But, as its roots, it has a long history of government automation and the attempt to integrate automation and services to the public. This course will examine what it is currently doing and what it can do both in the US and internationally. Specific areas of study will include the e-government’s relation to the political process and to information policy, what populations are and are not using e-government, challenges to access, open government, | At the completion of the course students will:  
- Understand the Nature of e-government;  
- Understand current and future social and political implications of e-government;  
- Identify Specific issues in e-government and the literature related to those issues;  
- Understand different methods and types of e-government;  
- Analyze e-government within the larger policy environment and political context;  
- Conduct evaluations of e-government websites, services, and resources; and  
- Understand the role of libraries and non-governmental organizations in providing e-government services. |
the evaluation of e-government, public sphere entities that support e-government, and social networking applications and e-government, among other topics.

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<td>LBSC 620</td>
<td>Diverse Populations, Inclusion, and Information</td>
<td>Information underlies virtually every interaction, is a vital social and political equalizer, and is a unifying thread throughout all human actions. Given the importance of equal access to information by all members of society, the study of information must be framed in the most inclusive terms possible, including issues of socio-economic status, education, geography, language, literacy, gender, age, sexual orientation, disability, race ethnicity, and national origin. This course is designed to prepare future information professionals to develop and provide inclusive services to diverse and underrepresented populations, and to analyze and evaluate services to ensure equality of access to information in a range of institutional settings.</td>
<td>At the completion of the course students will: • Understand the concepts of inclusion and equal access in terms of information; • Understand the social, political, and technological barriers to access in society; • Understand the specific information needs of various diverse and underrepresented populations; • Understand the history of the provision of services to underrepresented and diverse populations; • Understand the means of designing, implementing, analyzing, assessing, and evaluating information services in terms of equal access; • Understand the issues of diversity and underrepresentation in information education; and • Understand the importance of equality of information access to society.</td>
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<td>LBSC 622</td>
<td>Universal Usability</td>
<td>This course focuses on the use and challenges of information services and technologies to provide equal experiences and outcomes to all users. Laws, standards, approaches, component concepts, access needs, and technologies in relation to physical and online information environments.</td>
<td>At the completion of the course students will: • Understand the limitations that many diverse populations experience in their desire to gain information for education and for pleasure; • Understand the need for libraries to improve the technology available to the special needs of their patrons; • Understand the types of materials that should be part of every collection; • Understand the variety of programming options that should be available, at minimal cost; • Understand the ways in which libraries can take on a leadership role in assuring Universal Usability to all of their patrons both within their buildings and within the community; and • Understand the organizations with which libraries may wish to partnership to increase services to</td>
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| INST 627    | Data Analytics for Information Professionals     | While much has been written about the promise of “big data,” effectively using data resources to improve individual and group outcomes remains a significant challenge. This course provides students with the foundational skills and knowledge they will need to play a significant role in selecting datasets and sources, performing quantitative and qualitative analyses, and developing high-impact information resources.                                                                                                                  | • Select and evaluate various types of data to for use in decision making;  
• Use prescriptive and descriptive analyses to reach defensible, data-driven conclusions;  
• Select and apply appropriate statistical methods, including t-tests, chi-square tests, ANOVA, correlation, and regression, to address decision problems;  
• Use MS Excel and SPSS for basic data manipulation and analysis; and  
• Critically evaluate data analyses and develop strategies for improving their reliability and validity.                                                                                                                                                                                                                   |
| INST 714    | Information for Decision-Making                 | Decision problems can be modeled and solved using a range of decision-making and problem-solving methods: hard vs. soft, single-criterion vs. multi-criteria, individual vs. group, deterministic vs. probabilistic. However, no matter how a decision is made, information and data resources play a central role. This course introduces core decision theory concepts, individual and organizational decision-making methods, and common biases and errors in human decision-making. Building on this foundation, students then develop the knowledge and skills needed to select, evaluate, and design information and data resources to support effective decision-making. | • Apply basic concepts in decision theory to analyze decisions and decision-making processes;  
• Identify categories of decision problems and select situation appropriate decision-making methods;  
• Recognize common cognitive, psychological and social pitfalls, which decision makers should avoid, and be able to propose information-based interventions to manage these risks;  
• Build simple models with MS Excel, (and possibly other spreadsheet applications) for use in decision making; and  
• Critically evaluate and develop information and data resources to support individual and group decision-making.                                                                                                                                                                                                                     |
| INST 733    | Database Design                                  | This course focuses on approaches to and methods for designing relational databases. After almost half a century of development, and challenges from various competing paradigms, relational databases remain a standard technology for data storage and organization. A high-quality relational database can help leverage an organization’s data and information assets for better fulfillment of its mission. On the other hand, a poor, problem-ridden database can complicate even the simplest data-driven functions within the organization. There are                                                                                                                                 | • Understand and define fundamental concepts in relational databases;  
• Develop a logical database design;  
• Develop and interpret entity-relationship diagrams;  
• Normalize relational databases;  
• Develop a physical database based on a logical design; and  
• Perform CRUD (create, read, update, delete) operations on relational databases.                                                                                                           |
various factors that determine the quality of a relational database. An indispensable prerequisite for establishing a high-quality database is a robust design. This course covers principles and methods for logical and physical database design, as well as SQL, a language for maintaining relational databases and managing data held in relational databases.

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<td>INST 6xx: Data Manipulation, Cleaning, and Assessment (Proposed)</td>
<td>Successfully creating high-impact information resources require a wide range of knowledge and skills including needs assessment, statistical analysis, and visualization design. However, underlying any data analytics effort is a set of critical tasks related to data acquisition, assessment, cleaning, integration, and preparation. While often perceived as mundane or routine, performing these activities well requires knowledge of a wide range of formats, issues, tools and techniques. This course provides students with the foundational concepts, skills, and experience they will need to be able to transform raw data into usable dataset and information resources.</td>
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At the completion of the course students will:

- Recognize and work with common data formats, including, but not limited to delimited text files, fixed-width fields, JSON, RDF;
- Identify the elements of data quality and assess the quality of data sources and datasets;
- Select and use tools such as MS Excel, SPSS, R, and Python to transform raw, multi-source data in functional analysis datasets;
- Design and implement data validation tests; and
- Evaluate and improve dataset structure and documentation.