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INFO 628: Data Librarianship and Management Fall 2020

Class Hours: Thursday, 6:30pm – 9:20pm
Office Hours: By appointment
Credits: 3
Prerequisites: None
Location: PMC 612

Bulletin Description:

The world of data is seemingly a new frontier for libraries, yet in some ways, data and data sets are comparable to other print and electronic resources that librarians historically have been charged with locating, teaching, collecting, organizing, and preserving. This course asks how best we can serve the needs of a burgeoning community of data users/producers while meeting the new challenges that data present to our existing skillsets, workflows, and infrastructure. Topics will include data reference and literacy; archives and repositories; formats and standards; ethics and policy. Statistical/GIS software and research data management are also explored.

Detailed Description:

Class sessions will include lectures, in-class lab activities, and student-led discussions of readings and data-related news. Practitioners in the field will serve as guest lecturers when available and appropriate. The methods, activities, and assignments in this course are designed to (a) maximize peer learning, i.e. opportunities to teach and learn from other students, (b) approximate some of the real world activities and challenges faced by librarians, and (c) get students excited about (rather than intimidated by) this growing niche of librarianship.

Course Goals:

The course provides:

- An introduction to concepts and terminology related to data and data services.
- Broad overview of the nature and range of data products and producers.
- Knowledge of how to develop and provide different tiers of data services (including reference, instruction, and collections development) in a library setting.
- Understanding of ethical, social, and political issues related to the creation, use, and reuse of data.

Student Learning Outcomes:

By the end of this course, students will be able to:

- Describe forms, formats, and lifecycles of data and how these vary across disciplines.
- Practice effective strategies and appropriate sources for locating different kinds of data and statistics.
- Construct basic questions and considerations when collecting and appraising data.
- Self-sufficiently acquire technical knowledge.
- Demonstrate the ability to think critically and communicate confidently about issues related to data librarianship.

Course Schedule and Readings

While this syllabus provides a basic framework for the course, it is subject to change. All changes will be announced in class and on the course website (<https://vickysteeves.gitlab.io/lis-628-datalibrarianship>) and via email. Unless otherwise noted, the readings will be linked below and within each week's chapter on the class site. All readings will be open access, so you will be able to read them without logging into anything. Readings should be completed in advance of the week they're assigned below.

If you see dead links (it does happen, usually with no notice), weird due dates, or other syllabus problems, please email me!

Unit 1: Definitional/technical overview	
Week 1: Course Overview September 3rd	
No readings	
Week 2: Data Basics September 10th	
Borgman, " The conundrum of sharing research data " (pp. 6-16) Leek, The Elements of Data Analytic Style , chapters: "Tidying the data" and "Checking the data" (pp. 10-22) University of Leicester, Research Data Definitions NCSU Libraries, Defining Research Data	Bring in a sample of something physical that you consider to be data to share in class.
Week 3: Spatial, quantitative, qualitative, and "big" data September 17th	
Force11, " Guiding Principles for Findable, Accessible, Interoperable and Re-usable Data " Sutton et al., " A Gentle Introduction to GIS " USC Libraries, " Quantitative Methods " Sage, " Qualitative Research: Defining and Designing " (pp. 1-17) Ellingwood, Justin, " An Introduction to Big Data Concepts and Terminology "	Lab 1
Week 4: Data Management September 24th	
Whyte, Angus and Jonathan Tedds, " Making the case for research data management " Akers, Katherine, and Jennifer Doty. " Disciplinary differences in faculty research data management practices and perspectives. " Wiener-Bronner, Danielle " Most Scientific Research Data From the 1990s Is Lost Forever " Perrier et al, " Research data management in academic	Lab 2

institutions: A scoping review	
Week 5: Data cleaning and analysis October 1st	
Leek, The Elements of Data Analytic Style , chapter: "Statistical modeling and inference" (pp. 34-44) Nguyen, " Using Google Refine to clean messy data " Maceli, " Introduction to Text Mining with R for Information Professionals " Logan et al., " Choosing Statistical Software " Optional: Timmer, " Changing software, hardware a nightmare for tracking scientific data " BONUS: Programming Historian Lessons	Lab 3
Week 6: Reproducibility October 8th	
Steeves, Vicky, " Reproducibility Librarianship " Sayre, Franklin; Riegelman, Amy, " The Reproducibility Crisis and Academic Libraries " Vitale, Cynthia R.H. " Is Research Reproducibility the New Data Management for Libraries? " Dekker & Lackie, " Technical Data Skills for Reproducible Research " (pp. 93-112)	Lab 4
Week 7: Legal and regulatory environment October 15th	
Boyle & Jenkins, " The genius of intellectual property and the need for the public domain " (pp. 10-14) Arzberger et al., " An International framework to promote access to data " Hagedorn et al, " Creative Commons licenses and the non-commercial condition " Stodden, " The legal framework for reproducible scientific research: Licensing and copyright "	Work on check-in 1
Unit 2: Library Services	
Week 8: Data services in libraries October 22nd	
Goben, Zilinski, and Briney. " Going Beyond the Data Management Plan: Services and Partnerships. " Salo, " Retooling libraries for the data challenge " Reznik-Zellen et al., " Tiers of research data support services " Emmelhain, " Data librarians in public libraries " Coates, " Building data services from the ground up "	Project Check-in 1
Week 9: Data reference October 29th	
Witt & Carlson, " Conducting a data interview " Partlo, " The pedagogical data reference interview " Carleton College, " Data, Datasets, and Statistical Resources " Smith, Conte, and Guss, " Understanding Academic Patrons' Data Needs through Virtual Reference Transcripts "	Lab 5
Week 10: Data literacy & instruction November 5th	
Shields, " Information literacy, statistical literacy, data literacy " Rosenblum et al., " Collaboration & co-teaching: Librarians teaching Digital Humanities in the classroom " Kellam & Peter, " Data instruction: Statistical and data literacy " Shorish, Yasmeen. " Data Information Literacy and	Lab 6

<p>Undergraduates: A Critical Competency Clement, Ryan, Blau, Amy, Abbaspour, Parvaneh, and Gandour-Rood, Eli, "Team-based data management instruction at small liberal arts colleges"</p>	
<p style="text-align: center;">Week 11: Data collection services November 12th</p>	
<p>Hogenboom et al., "Collecting small data" Read through three of the Collections as Data Facets projects</p>	<p>Work on your check-in!</p>
<p style="text-align: center;">Unit 3: Preservation, dissemination, and sustainability</p>	
<p style="text-align: center;">Week 12: Data sharing & publishing November 19th</p>	
<p>NIH, "Frequently asked questions about the NIH Public Access Policy" NSF, "Dissemination and sharing of research results" Fienberg et al., Sharing Research Data, "Issues and recommendations" (pp. 3-32) Tenopir, C., Dalton, E.D., Allard, S., Frame, M., Pjesivac, I., Birch, B., Pollock, D. & Dorsett, K., "Changes in data sharing and data reuse practices and perceptions among scientists worldwide" DataCite website and specifically "Why cite data?" ICPSR, "Phase 3: Best Practice in Creating Research Data"; "Phase 6: Depositing Data" (pp. 21-38)</p>	<p>2nd final project check-in</p>
<p style="text-align: center;">Week 13: NO CLASS November 26th</p>	
<p style="text-align: center;">Enjoy your time off :)</p>	
<p style="text-align: center;">Week 14: Data archives & repositories December 3rd</p>	
<p>Kellam & Peter, "Basic sources for supporting numeric data services" (Read pp. 89-105; Skim interesting sources from pp. 106-149) Thiede, "Preservation in practice: A survey of New York City Digital Humanities practitioners" Wilson, "How much is enough: metadata for preserving digital data" Vines et al., "The availability of research data declines rapidly with article age"</p>	<p>Work on final project</p>
<p style="text-align: center;">Week 15: Special concerns December 10th</p>	
<p>Cegłowski, "Deep-Fried Data" Asher & Jahnke, "Curating the ethnographic moment" [PDF] Hurley, "When Academic Neurologists Leave, Who Owns Their Research?" Moody, "Elsevier Says Downloading And Content-Mining Licensed Copies Of Research Papers 'Could Be Considered' Stealing" Shaw & Cloud, "Anonymization and microdata: Can we open up granular info without invading privacy?"</p>	<p>Work on final project</p>
<p style="text-align: center;">Week 16: Future/sustainability December 17th</p>	
<p>Timmer, "How science funding is putting scientific data at risk" Goldstein & Ratliff, "DataSpace: a funding and operational model"</p>	<p>Final projects presentations & hand in all final project materials.</p>

Textbooks, Readings and Materials

There is no required textbook. All readings and materials will be open access, so you will be able to read them without logging into anything.

Projects, Papers and Assignments

Discussions & Participation (20%)

Each week, students should be prepared to discuss and/or ask and answer questions based on the readings or in-class exploratory labs. A student's participation grade will be based on facilitating class discussion during their assigned week (including coming up with 4-6 discussion questions) and actively participating in discussions led by other students. Discussion questions should be sent to the instructor before 11:55pm the Tuesday night before their assigned class. In addition to these in-class participation activities, some classes may require you to bring in outside materials/objects to fuel discussion.

Labs (6 @ 5% = 30%)

You will be assigned hands-on activities designed to help you engage with that week's materials. Time permitting, you can start these in class. Whatever is not finished in class will be assigned as homework and must be handed in by 11:55pm EST the Wednesday before the next class. These labs are designed to underscore and amplify understanding in the lecture and readings for a given week. We will use software on the computers of the classroom, however all materials used (software, data, etc.) will be given at least a day in advance for any students who want to use their own machines.

Final Project (30%)

You will have all semester to work on and refine a final project, which will be presented in the final class of the semester. You have two final projects to choose from, or you can email me an original idea for a final project by 5pm on Friday, September 11th. The format and length of presentations will be determined by the size of the class and the ratio of Project 1 choices to Project 2 choices. We will also have two graded project check-ins, to ensure all projects are on track.

Project Choice 1 – Researcher Perspectives

Design and carry out a small research project of your choice (focus on a data-informed study using either quantitative, qualitative, GIS data, or mixed methods). The end-product will be a research poster (online only, no need to print it) designed for a target conference, such as ACRL, SLA, RDAP or discipline-appropriate conference. Alongside the poster, you will also need to submit:

- Data management plan (2 pages max)
- Raw, analyzed, and publication-ready data
- Data documentation or codebook (e.g. README and codebook if you're handing in a spreadsheet)
- Any specialized analysis tools
- 1,000 - 1,500 word write-up on your study (with a bibliography or lit review section)

Get some inspiration for posters here:

- <http://blogs.lse.ac.uk/impactofsocialsciences/2018/05/11/how-to-design-an-award-winning-conference-poster/>
- <https://guides.nyu.edu/posters>
- <https://researchguides.library.tufts.edu/c.php?g=344931&p=4823350>

Project Choice 2 – Creating Data Services: based loosely off Dorothea Salo’s Tool/Service Review project: <http://files.dsalo.info/668syll2014.pdf>

First, you need to benchmark other services so you know where you want to build! Pick three institutions that currently offers data services, including data reference, data collection, research data services, and instruction services around data.

- Services intended purpose and audience (e.g. patrons)
- Services fitness for purpose and audience
- Features (what problems does it solve? What gaps does it fill?)
- Limitations (what does it not do?)
- Prerequisites (what do users need to know/do before using the services?)
- Ease of use
- Future prospects (how trustworthy is the service?)
- Cost (staff, software, etc.)

This can be submitted as a spreadsheet. After you finish your peer benchmarking, you are expected to write a strategic plan on how to build and maintain your prospective data services department, including:

- Outline of your organization’s mission
- SWOT: your organization’s strengths and weaknesses, as well as opportunities and threats
- 4-5 goals aligned with mission
- Priorities, activities, objectives, strategies more in-depth
- Each goal should have a few different objectives/strategies associated with it
- Roadmap and timeline
- 1 page executive summary (should be written last!) to succinctly convey the future direction, priorities, and impact.

For inspiration, you can look at the [Strategic Agenda for Research Data Services](#) from Oregon State University.

Final Project Check-ins (2 @ 10% = 20%)

The first check-in will be on October 22nd, and the second check-in will be on November 19th. These check-ins are to ensue that you are progressing on-schedule for your final projects, and to provide a way to get feedback at various points in the process from both the instructor and classmates. The requirements for check-ins are split up by the choice of project below.

Project Choice 1 – Researcher Perspectives:

1st Check-in (10%) – You will submit a 2 page data management plan and a 2 page (max) methodology statement to the instructor alongside any data that you’ve gathered or created. In-class, you are expected to present your thesis/idea, any data you have or plan

on using, your methods, and your data management strategy. Your classmates will provide you feedback via a form created and circulated by the instructor.

2nd Check-in (10%) – By this point, you should be about 2/3 of the way done with your final project. As such, you'll hand in the data management plan (denoting any revisions from the DMP handed in for the first check-in and this one) and a 2 page (max) analysis statement that goes over how you've approached analyzing the data you've gathered or created. In-class, you'll present how far your project has come since the first check-in. Your classmates will provide you feedback via a form created and circulated by the instructor.

Project Choice 2 – Creating Data Services:

1st Check-in (10%) – You will submit your benchmarking study to the instructor ahead of class. In-class, you will present the results, including a discussion of how you chose to evaluate (e.g. on a scale of 1-4, completely qualitatively, etc.). Your classmates will provide you feedback via a form created and circulated by the instructor.

2nd Check-in (10%)– You will submit the outline of your organization's mission, the 4-5 goals aligned with that mission, and the SWOT analysis to the instructor ahead of class. In-class, you will present this as if to a steering committee of a library, where you'd want to make the case for administrative buy-in for your goals and strategic mission. Your classmates will provide you feedback via a form created and circulated by the instructor.

Project Choice 3 - Student-designed project:

If you've chosen to design your own project, please discuss options for the check-in with the instructor.

Assessment and Grading

All assignments must be completed to receive a passing grade in the course. Assignments are to be submitted to me via the course site by 11:55pm (Eastern) on the Wednesday before the next class period. If you need an extension, just email me and I am generally flexible. If you do not get in touch with me, you will lose 1 point for every day that an assignment is late. Additionally, late assignments will receive a grade but no comments.

Assignments & Projects

Labs (5% each)	30%
Participation	20%
Final project check-ins (10% each)	20%
Final project	30%
TOTAL	100%

Your assignments are graded on a scale of 0-100. Your final course letter grade will correspond to Pratt's scale –

Pratt's grading scale:

Superior work:	A 4.0 (96-100) A- 3.7 (90-95)
Very good work:	B+ 3.3 (87-89) B 3.0 (83-86) B-2.7 (80-82)
Marginally satisfactory:	C+ 2.3 (77-79) C 2.0 (73-76)

Failed: F 0.0 (0-72)

Portfolio

Work completed for this course may be included in your portfolio. For more information on each program's portfolio requirements, please visit the program's respective webpage:

MS Library & Information Science: Portfolio - <http://bit.ly/prattmslisportfolio>

MS Information Experience Design: Portfolio - <http://bit.ly/prattmsixdportfolio>

MS Data Analytics and Visualization: Portfolio - <http://bit.ly/prattmsdavportfolio>

MS Museums and Digital Culture: Portfolio - <http://bit.ly/prattmsmdcportfolio>

You are encouraged to meet with your adviser about including projects in your portfolio.

Pratt Institute-Wide Policies

This Course's Attendance Policy

I'm going to take attendance at every class. If you're going to miss a class, please let me know ahead of time as much as possible. When you have to miss a class, you will be expected to submit minimum 1 page and maximum 2 pages written reflection on the required readings for the missed class (to make up participation) and to meet existing deadlines for assignments (unless we discuss an extension). Reach out to classmates for notes on the missing class and read the lecture materials on our class website.

I am generally flexible on deadlines (as much as the pace of the course allows) and extensions. Just talk to me and we can work something out. At some point, if you miss enough classes (5+) without us working out a compromise, I have to take action with the School. So please just talk to me beforehand!

Academic Integrity Code

Academic integrity at Pratt means using your own and original ideas in creating academic work. It also means that if you use the ideas or influence of others in your work, you must acknowledge them. For more information on Pratt's Academic Integrity Standards, please visit <http://bit.ly/prattacademicintegrity>.

Students with Disabilities and Accessibility

Pratt Institute is committed to the full inclusion of all students. If you are a student with a disability and require accommodations, please contact the Learning/Access Center (L/AC) at LAC@pratt.edu to schedule an appointment to discuss these accommodations. Students with disabilities who have already registered with the L/AC are encouraged to speak to the professor about accommodations they may need to produce an accessible learning environment.

Requests for accommodation should be made as far in advance as reasonably possible to allow sufficient time to make any necessary modifications to ensure the relevant classes, programs, or activities are readily accessible. The Learning/Access Center is available to Pratt students, confidentially, with additional resources and information to facilitate full

access to all campus programs and activities and provide support related to any other disability-related matters.

For more information, please visit <http://www.pratt.edu/accessibility/>.

Human Rights, Equity, BERT, and Title IX

Pratt Institute seeks to provide an environment that is free of bias, discrimination, and harassment. If you have been the victim of harassment, discrimination, bias, or sexual misconduct, we encourage you to report this.

If you inform me of an issue of harassment, discrimination or bias, or sexual misconduct I will keep the information as private as I can, but I am required to bring it to the attention of the institution's Title IX Coordinator. You can access Title IX services by emailing titleix@pratt.edu. You can also speak to someone confidentially by contacting our non-mandatory reporters: Health Services at 718-399-4542, Counseling Services 718-687-5356 or Campus Ministries 718-596-4840.

In cases of Bias, this information may go to our Bias Education & Response Taskforce (BERT). You can contact BERT by either reaching out directly via bert@pratt.edu.