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INFO 628: Data Librarianship and Management

Fall 2021

Class Hours: Thursday, 6:30 - 9:20pm

Office Hours: By appointment

Credits: 3

Prerequisites: None

Location: Online

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.

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. Readings should be completed in advance of the week they're assigned.

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

Course Schedule

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://vickyrampin.gitlab.io/lis-628-data-librarianship>) and via email. Unless otherwise noted, the readings will be linked below.

Unit 1: Definitional/technical overview	
Week 1: Course Overview September 2nd	
Emmelhainz, Celia, " Things You Can Do as a Library Student to Prepare for a Career as a Data Librarian " Henderson, Margaret. " Why You Need Soft and Non-Technical Skills for Successful Data Librarianship "	Bring in a sample of something physical that you consider to be data to share in class (ungraded)
Week 2: Data Basics September 9th	
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)	Homework 1

University of Leicester, Research Data Definitions NCSU Libraries, Defining Research Data	
Week 3: Spatial, quantitative, qualitative, and "big" data September 16th	
Force11, " Guiding Principles for Findable, Accessible, Interoperable and Re-usable Data " CARE Principles for Indigenous Data Governance 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 "	Homework 2 Submit your final topic ideas (ungraded)
Week 4: Data Management September 23rd	
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 institutions: A scoping review " Software Sustainability Institute, " Writing and Using a Software Management Plan "	Homework 3
Week 5: Data preparation and analysis September 30th	
Archer, " Qualitative data analysis: A primer on core approaches " 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 " Timmer, " Changing software, hardware a nightmare for tracking scientific data "	Homework 4
Week 6: Reproducibility October 7th	
Dekker & Lackie, " Technical Data Skills for Reproducible Research " (pp. 93-112) Goodman et. al., " What does research reproducibility mean? " Sayre, Franklin; Riegelman, Amy, " The Reproducibility Crisis and Academic Libraries " Steeves, Vicky, " Reproducibility Librarianship " Vitale, Cynthia R.H. " Is Research Reproducibility the New Data Management for Libraries? "	Homework 5
Week 7: Legal and regulatory environment October 14th	
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 "	Complete unit 1 self-assessment (ungraded) Homework 6

Stodden, " The legal framework for reproducible scientific research: Licensing and copyright "	
Unit 2: Library Services	
Week 8: Data services in libraries October 21st	
Goben, Zilinski, and Briney. " Going Beyond the Data Management Plan: Services and Partnerships. " Cox et. al., " Developments in research data management in academic libraries: Towards an understanding of research data service maturity " Reznik-Zellen et al., " Tiers of research data support services " Emmelhain, " Data librarians in public libraries " Coates, " Building data services from the ground up "	Complete course check-in (ungraded) Project Check-in 1
Week 9: Data reference October 28th	
Witt & Carlson, " Conducting a data interview " Partlo, " The pedagogical data reference interview " Smith, Conte, and Guss, " Understanding Academic Patrons' Data Needs through Virtual Reference Transcripts "	Homework 7
Week 10: Data literacy & instruction November 4th	
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 Undergraduates: A Critical Competency " Clement et. al., " Team-based data management instruction at small liberal arts colleges "	Homework 8
Week 11: Data collection services November 11th	
Hogenboom et al., " Collecting small data " Read through three of the Collections as Data Facets projects	Complete unit 2 self-assessment (ungraded) Work on 2nd check-in!
Unit 3: Preservation, dissemination, and sustainability	
Week 12: Data sharing & publishing November 18th	
DataCite, " Why is it important to cite data? " Fienberg et al., Sharing Research Data , " Issues and recommendations " (pp. 3-32) Smith et. al, " Software citation principles " van de Sandt et. al., " Practice meets Principle: Tracking Software and Data Citations to Zenodo DOIs "	2 nd final project check-in
Week 13: NOTHING November 25th	
Enjoy your time off :)	
Week 14: Data archives & repositories December 2nd	
Kellam & Peter, " Basic sources for supporting numeric data services " (Read pp. 89-105; Skim interesting sources from pp. 106-149)	Work on final project

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 "	
Week 15: Special concerns December 9th	
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? "	Work on final project
Week 16: Future/sustainability December 16th	
Timmer, " How science funding is putting scientific data at risk " Goldstein & Ratliff, " DataSpace: a funding and operational model "	Complete final self-assessment (ungraded) All final project materials due!

Expected work (graded)

Discussions & Participation (20%)

Each week, students should be prepared to discuss and/or ask and answer questions based on the readings. A student's participation grade will be based on facilitating class discussion during their assigned week (including coming up with 3-6 discussion questions) and actively participating in discussions led by other students.

Homework (8 @ 5% = 40%)

You will have 8 homework designed to underscore and amplify understanding in the lecture and readings for a given week. These must be handed in by 11:55pm EST the Wednesday before the next class week. For any assignments that could have a hands-on component, a reading and writing alternative will be automatically given to all students who can't complete the hands-on portions for whatever reason. All software for hands-on components is accessible to you via [Pratt's Launchpad](#).

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 6pm on Friday, September 4th. 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 digital research poster 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)
- Methods statement (2 pages max)
- Analysis plan (2 pages max)
- Raw, analyzed, and publication-ready data
- Data documentation or code-book (e.g. README and code-book if you're handing in a spreadsheet)
- Any specialized analysis tools that you used to get the work done
- 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>

No matter what type of librarianship you will do, you will need to conduct an environmental scan. It is a core part of every librarian's job to understand the landscape in which they operate, and many libraries have large, coordinated efforts towards peer benchmarking and landscape analyses. In this project choice, you will conduct an environmental scan to be able to make recommendations for the formation of the new Data Services department at an institution of your choosing (e.g. natural history museum, small liberal arts college, urban community college). You will pick four institutions that currently offers data services, including data reference, data collection, research data services, and instruction services around data to benchmark against, with an eye towards the following criteria:

- 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 with some quantitative rankings (with accompanying documentation) or as a written report. After you finish your peer

benchmarking, you are expected to write a strategic plan (3,000 - 5,000 words) on how to build and maintain your prospective data services department, including:

- Outline of your organization's mission
- SWOT (strengths, weaknesses, opportunities, and threats) analysis for your institution
- 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
- Road map 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%)

These check-ins are to ensure 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. You will also be expected to record a video presentation of your thesis/idea, any data you have or plan on using, your methods, and your data management strategy. Your classmates will provide you feedback on your work, and you will be expected to provide feedback to others.

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. You will also be expected to record a video presentation of how far your project has come since the first check-in. Your classmates will provide you feedback on your work, and you will be expected to provide feedback to others.

Project Choice 2 – Creating Data Services:

1st Check-in (10%) – You will submit your benchmarking study to the instructor ahead of class. You will also be expected to record a video presentation of 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 on your work, and you will be expected to provide feedback to others.

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. You will also be expected to record a video presentation as if it was a meeting with your institution’s steering committee for the 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 on your work, and you will be expected to provide feedback to others.

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

Assignments are to be submitted to me via the course site by 11:55pm (Eastern) on the Wednesday before the next class period.

I am generally flexible on deadlines and extensions (as much as the pace of the course allows). Just talk to me and we can work something out. If you do not get in touch with me, you will lose 1 point for every day that an assignment is late. Additionally, depending on how late the submission is, you may receive a grade but no comments on your work.

WORK	% OF FINAL GRADE
Discussion & participation	20%
Homework	40%
Final project check-ins	20%
Final project	20%
TOTAL	100%

Your assignments are usually graded on a scale of 0-100 but some may also be pass/fail. 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+ 2.3 (77-79)	
Failed:	F 0.0 (0-72)		

Portfolio

Work completed for this course may be included in your portfolio. If you have a fall deadline, please meet with me to discuss scheduling of projects you might want

to include from this course. For more information on each program's portfolio requirements, please visit the program's respective webpage:

- ★ MS Library & Information Science: Portfolio - bit.ly/prattmslisportfolio
- ★ MS Information Experience Design: Portfolio - bit.ly/prattmsixdportfolio
- ★ MS Data Analytics and Visualization: Portfolio - bit.ly/prattmsdavportfolio
- ★ MS Museums and Digital Culture: Portfolio - bit.ly/prattmsmdcportfolio

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

Policies

This Course's Attendance Policy

This class is mostly online and asynchronous, however you will be expected to come to a synchronous online virtual discussion for 1 hour per week, Thursdays from 6:30 - 7:30pm EST. You may be asked to stay longer if we have a guest speaker, up to the full usual class period of three hours (though this has never happened yet while this course is online). Given this course is completely online, it really depends on us making community and engaging with each other as much as possible. If you need to miss this discussion period, please just let me know and reach out to your colleagues for a summary of the discussion.

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.