



# INLS 775: Applied Data Curation and Management


August 21 – December 8, 2023 ONLINE

## The Instructor.

Dr. Helen R. Tibbo

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: (919) 418-4557(c)

Class Website: Canvas

## Office Hours.

I am available almost any time for a video chat or we can meet in person at a mutually agreeable time if you are local. Also, feel free to call me at home in the evening before 9:00 PM. For face-to-face classes I will have posted office hours and you can make an appointment for other times as well.

## Brief Course Description.

This class will introduce you to digital and data curation in a wide array of environments including business, government, and academia. It will start with a brief overview as to what digital and data curation are, then we will delve into key topics, issues, and techniques that have arisen in the evolving discipline and profession of digital and data curation for the past 25 plus years. These include: the Digital Curation Centre's Data Curation Lifecycle; research data management; the importance of data sharing; the challenges and benefits of big data; what constitutes good data; what is open data; what is FAIR data (this is not just data that falls between good and poor); the ethics of data collection, analysis, and storage; data sharing and reuse for the academic, government, and business sectors; and the roles of data management plans in all data venues.

## Target Audience.

This class is designed for students enrolled in the SILS Graduate Certificate in Applied Data Science (CADS) program.

## Course Timeline.

Start of First Module: August 21

Wellbeing Days: September 5 and 25

Fall Break: October 19 and 20

Thanksgiving Break: November 22 - 24

Classes End: Wednesday, December 6

Ending: Friday, December 8, 2023 (exam day)



## Course Goals and Key Learning Objectives.

By the end of the course, the student should be able to:

1. Grasp the urgency of and need for long-term data curation in public and private venues.
2. Define data and identify their roles in organizational, technological, legal, cultural, and business contexts.
3. Be able to discuss the data curation lifecycle and all its parts.
4. Describe central data curation concepts, terms, tools, and technologies.
5. Explore the nature of the many forms of data including big, open, and FAIR data.
6. Be able to discuss the elements of a data management plan and explain why the various parts are important.
7. Be able to manage his or her own data and explain the workflow they developed.
8. Be able to explain the importance of data curation for an array of settings including academia, business, and government.

## Class Participation (Forum Posts) 30% of Grade.

- You are expected to participate in the class forum every week. Posts are due on **Monday by 11:55 pm** each week **at the latest** to allow your classmates and me to read all the posts before the end of the week period.
- Posts may address the readings, lectures, and the other materials that are part of that week's assignments as well as any other source relevant to a given week's content.
- Grades will be assigned based on the quality of the posts not the length of each post.
- Posts will be assessed based on the following criteria:
  - Relevance of the post to the question/conversation, i.e., the degree to which a post advances the discussion (hint – this is easier if you post early before others have made the most obvious points!)
  - Depth of understanding of the material, i.e., the level of preparation shown in the post.
  - Level of insight displayed by the post - does the post reflect the nuances of the question or situation posed?
  - Inclusion of relevant materials outside the assigned readings.

The purpose of the forum discussions is to help students to think critically about issues and challenges related to digital curation and management, and to address ways that the literature may affect practice. It is helpful, when preparing each week's work, to consider how that session's particular theme and readings may apply to your area of professional interest. You are also encouraged to share current news and events you find informative to issues of data curation through the class listserv.

Please work to stay on top of the forum posts. This is the primary way we will share with each other and act as a class during the semester. Be prepared to give your most thoughtful comments and learn from others' posts.



## Assignments & Evaluation.

<i>Assignment</i>	<i>% of Grade</i>	<i>Due Date</i>
Forum Posts/Class Participation	30%	On-going, Wednesday of every other week
Midterm Exam Due	15%	September 29
Data Curation Approach for Your Personal Digital Materials and Presentation	30%	November 3
Final Exam Due	25%	December 8

## Assignment Nomenclature.

For all assignments or any other items that are emailed to the instructor or added to the assignment drop box in Canvas, please save your file as “lastname\_assignment\_xxx.docx”. All assignments should be turned in as word documents or pdf documents. Please put your name in the header of each page of your assignments as well.

## Undergraduate Grading Scale. The following definitions will be used as a guide for the assignment of undergraduate grades.

**A: (90-100)** Mastery of course content at the highest level of attainment that can reasonably be expected of students at a given stage of development.

The A grade states clearly that the students have shown such outstanding promise in the aspect of the discipline under study that he/she may be strongly encouraged to continue.

**B: (80-89)** Strong performance demonstrating a high level of attainment for a student at a given stage of development.

The B grade states that the student has shown solid promise in the aspect of the discipline under study.

**C: (70-79)** A totally acceptable performance demonstrating an adequate level of attainment for a student at a given stage of development.

The C grade states that, while not yet showing unusual promise, the student may continue to study in the discipline with reasonable hope of intellectual development.

**D: (60-69)** A marginal performance in the required exercises demonstrating a minimal passing level of attainment.

A student has given no evidence of prospective growth in the discipline; an accumulation of D grades should be taken to mean that the student would be well advised not to continue in the academic field.



**F: (59 and lower)** For whatever reason, an unacceptable performance. The F grade indicates that the student's performance in the required exercises has revealed almost no understanding of the course content.

**Graduate Grading Scale. (Pluses and minuses not given for semester grades thus a semester P is 80-94 inclusive)**

H (95-100): "Clear excellence," superior work: complete command of subject, unusual depth, great creativity, or originality; above and beyond what is required;

P+ (90-94): Above average performance: solid work somewhat beyond what was required and good command of the material;

P (85-89): Satisfactory performance that meets course requirements (expected to be the median grade of all students in the course);

P- (80-84): Acceptable work in need of improvement;

L (70-79): Unacceptable graduate performance: substandard in significant ways;

F (< 70): Performance that is seriously deficient and unworthy of graduate credit; and

IN: Work incomplete (only given under extreme circumstances, such as serious illness)

**Academic Policies.**

By enrolling as a student in this course, you agree to abide by the University of North Carolina at Chapel Hill policies related to the acceptable use of online resources. Please consult the [Acceptable Use Policy](#) on topics such as copyright, net-etiquette, and privacy protection.

As part of this course, you may be asked to participate in online discussions or other online activities that may include personal information about you or other students in the course. Please be respectful of the rights and protection of other participants under the UNC-Chapel Hill [Information Security Policies](#) when participating in online classes.

When using online resources offered by organizations not affiliated with UNC-Chapel Hill, such as Google or YouTube, please note that the terms and conditions of these companies and not the University's Terms and Conditions apply. These third parties may offer different degrees of privacy protection and access rights to online content. You should be aware of this when posting content to sites not managed by UNC-Chapel Hill.

When links to sites outside of the unc.edu domain are inserted in class discussions, please be mindful that clicking on sites not affiliated with UNC-Chapel Hill may pose a risk for your computer due to the possible presence of malware on such sites.

**Honor Code & Class Conduct**

**Honor Code:**

*The University of North Carolina at Chapel Hill has had a student-administered honor system and judicial system for over 100 years. The system is the responsibility of students and is regulated and governed by them, but faculty share the responsibility. If you have questions about your responsibility under the honor code, please bring them to your instructor or consult with the office of the Dean of Students or the Instrument of Student Judicial Governance. This document, adopted by the Chancellor, the Faculty Council, and the Student Congress, contains all policies and*



*procedures pertaining to the student honor system. **Your full participation and observance of the honor code is expected.***

I expect all students to follow the guidelines of the UNC honor code. In particular, students are expected to refrain from “lying, cheating, or stealing” in the academic context. You can read more about the honor code at [honor.unc.edu](http://honor.unc.edu). In any course, including mine, what constitutes cheating can change from one activity to another. For example, collaboration may be encouraged for an assignment but qualify as cheating during an exam. Please see my guidelines for each activity, and if you are unsure, please ask me to clarify. In remote classes, there may be many temptations for using online exchange sites, such as Chegg. Note that these sites provide names of students who have used their materials, and they routinely cooperate with institutions around academic integrity issues. Please don’t get caught up with honor code issues just because it appears to be simple and untraceable. It is not!

### **Counseling and Psychological Services**

CAPS is strongly committed to addressing the mental health needs of a diverse student body through timely access to consultation and connection to clinically appropriate services, whether for short or long-term needs. Go to their website: <https://caps.unc.edu/> or visit their facilities on the third floor of the Campus Health Services building for a walk-in evaluation to learn more.

### **Accessibility Statement**

The University of North Carolina at Chapel Hill facilitates the implementation of reasonable accommodations, including resources and services, for students with disabilities, chronic medical conditions, a temporary disability, or pregnancy complications resulting in barriers to fully accessing University courses, programs, and activities.

Accommodations are determined through the Office of Accessibility Resources and Service (ARS) for individuals with documented qualifying disabilities in accordance with applicable state and federal laws. See the ARS Website for contact information: <https://ars.unc.edu> or email [ars@unc.edu](mailto:ars@unc.edu).

### **Diversity Statement**

“In support of the University’s diversity goals and the mission of the School of Information and Library Science, SILS embraces diversity as an ethical and societal value. We broadly define diversity to include race, gender, national origin, ethnicity, religion, social class, age, sexual orientation, and physical and learning ability. As an academic community committed to preparing our graduates to be leaders in an increasingly multicultural and global society we strive to:

- Ensure inclusive leadership, policies, and practices;
- Integrate diversity into the curriculum and research;
- Foster a mutually respectful intellectual environment in which diverse opinions are valued;
- Recruit traditionally underrepresented groups of students, faculty, and staff; and
- Participate in outreach to underserved groups in the State.



The statement represents a commitment of resources to the development and maintenance of an academic environment that is open, representative, reflective and committed to the concepts of equity and fairness.”~[\*The faculty of the School of Information and Library Science\*](#)

I value the perspectives of individuals from all backgrounds reflecting the diversity of our students. I broadly define diversity to include race, gender identity, national origin, ethnicity, religion, social class, age, sexual orientation, political background, and physical and learning ability. I strive to make this classroom an inclusive space for all students. Please let me know if there is anything I can do to improve, I appreciate suggestions.

## Attendance Policy

No right or privilege exists that permits a student to be absent from any class meetings, except for these University Approved Absences:

1. Authorized University activities
2. Disability/religious observance/pregnancy, as required by law and approved by [Accessibility Resources and Service](#) and/or the [Equal Opportunity and Compliance Office](#) (EOC)
3. Significant health condition and/or personal/family emergency as approved by the [Office of the Dean of Students](#), [Gender Violence Service Coordinators](#), and/or the [Equal Opportunity and Compliance Office](#) (EOC).

Please communicate with me early about potential absences. Please be aware that you are bound by the [Honor Code](#) when making a request for a university-approved absence.

## Class Participation Policies:

- Be prepared for each week’s modules by completing the assigned reading and exercises, enabling you to ask questions and participate in class discussion online or in person.
- Be an active and positive participant in online discussions, characterized as:
  - Having a clear command of the readings for the week;
  - Sharing analyses and opinions based on the readings;
  - Respecting other students’ views and opinions; and
  - Freely agreeing and disagreeing with others when warranted.
- Please note: An intellectual exchange of ideas is the cornerstone of education, but any criticism should be limited to an idea and not the person specifically.
- Turn in assignments by the due date unless you make previous arrangements with the instructor. Unexcused late assignments are unfair to your classmates.

## Flexibility and Responsibility.

We all come to this course with a variety of experiences, responsibilities, needs, and feelings. This means we have much to learn from each other, but it also means that we may all learn differently and



at different paces. I practice a “whole learner” approach to instruction. This means that all learners in our classroom (myself included) are not just students/instructors, but people with outside lives that will both inform and possibly sometimes interfere with this class. As such, the course policies below offer options for seeking extensions, making up missed classes, and taking an incomplete (IN grade) in the course. **All of these policies offer flexibility, but also ask for accountability.** Both are integral to creating a productive learning experience for our entire classroom community. (from “Flexibility with Boundaries”)

### **Penalty for Late Assignments.**

Our due dates in this class are not arbitrary. The course’s pacing is designed to help you make steady and productive progress toward the learning objectives, so all work should ideally be submitted by the specified due dates. However, life happens to all of us at one time or another. If you cannot meet an assignment deadline, please tell me PRIOR to class along with a date by which you will finish the work. This needs to be in writing. Otherwise, late assignments will drop 2 points for each day late. (from “Flexibility with Boundaries”)

### **Incomplete Grade for Term.**

Wrapping up a course on time at the end of a semester is a satisfying feeling; it’s also often necessary for graduation or other academic progress requirements. However, I realize that circumstances may make this on-time finish unrealistic. Therefore, I’m willing to give an incomplete grade (IN) for students who:

- ✚ Have completed at least 50% of the course assignments (by number, not weight, i.e. if a paper is worth 50% of the grade, but we also have 10 quizzes in the class, completing just the paper doesn’t meet the requirement).
- ✚ Submit an incomplete request with a detailed work plan and timeline for completing all outstanding work. This work plan should accompany the incomplete request unless extenuating circumstances prevent it. (from “Flexibility with Boundaries”)

### **Online Etiquette Guidelines.**

<http://www.albion.com/netiquette/>

<http://www.brighthub.com/education/online-learning/articles/26946.aspx>

### **Course Readings.**

#### **Textbooks.**

- Gillian Oliver & Ross Harvey, *Digital Curation* 2<sup>nd</sup> ed. (Chicago: Neal Schuman, 2016).



### Supplemental Resources.

- DCC Glossary: <http://www.dcc.ac.uk/digital-curation/glossary>
- DCC Curation Reference Manual: <http://www.dcc.ac.uk/resources/curation-reference-manual/completed-chapters>
- DCC How-To Guides: <http://www.dcc.ac.uk/resources/how-guides>
- DCC Briefing Papers: <http://www.dcc.ac.uk/resources/briefing-papers>

### Syllabus Changes.

The professor reserves the right to make changes to the syllabus, including project due dates and test dates. These changes will be announced as early as possible.

### Additional Student Resources.

- **The Learning Center:** The UNC Learning Center is a great resource both for students who are struggling in their courses and for those who want to be proactive and develop sound study practices to prevent falling behind. They offer individual consultations, peer tutoring, academic coaching, test prep programming, study skills workshops, and peer study groups. If you think you might benefit from their services, please visit them in SASB North or visit their website to set up an appointment: <http://learningcenter.unc.edu>.
- **The Writing Center:** The Writing Center is located in the Student and Academic Services Building and offers personalized writing consultations as well as a variety of other resources. This could be a wonderful resource to help with your writing assignments in this course (and any assignments in your other courses). You do not need a complete draft of your assignment to visit; they can help you at any stage! You can chat with someone in the writing center or set up an appointment on their website: <http://writingcenter.unc.edu>.





## Weekly Course Calendar

### Lesson 1: August 21 – 31: Introduction, Framework for this Class, and Overview of Digital Curation

#### Objectives:

- ❖ Students will be able to identify the goals of the course and understand requirements, readings, assignments, and expectations.
- ❖ Students will be exposed to the general scope of digital and data curation as areas of professional activity.
- ❖ Students will become familiar with many of the concepts, principles, tools, practices, and terminology that are central to data curation and management.
- ❖ Students will begin to consider the roles and responsibilities of digital curators and be able to list at least four roles and associated responsibilities.
- ❖ Students will be able to discuss the key points of digital curation and develop a definition of their own.

#### Forum Questions for the Week: (Please post by August 30 by 11:55 PM).

1. Add a Profile picture to your Canvas account (which will show as an icon next to your posts for the rest of the semester).
2. Introduce yourself; specify your personal pronouns; and share where you are from, what degrees you have and where you have gone to school, and why you are taking this course.
3. Name one thing you are excited to learn more about and one thing that makes you anxious/worried about taking this class (or any online class).
4. From your readings which definition of digital curation do you like best and why?
5. Please provide YOUR definition for digital curation that you think will be useful to you in your career.
6. Find (and post the URL of) 3 or more job descriptions that utilize digital curation skills that are not based in libraries or archives (the title of the job does not have to include “curator”).

#### Welcome and Introduction

Introduction to the class, instructor, and students. We will discuss through Canvas how we want to conduct the class and the nature of the assignments and the expectations of all of us.

Please read the syllabus first thing and ask any questions you may have. Make sure you respond to all the forum questions by Wednesday at 11:55 PM every other week to allow us to read all of the posts before the module’s week ends.



## Digital Curation

- View the video, Digital Preservation and Nuclear Disaster: An Animation: <http://www.youtube.com/watch?v=pbBa6Oam7-w>. There are several more videos in this series from DigitalPreservationEurope. They are fun and, I think, get their points across quite nicely. Have fun with this and any others you find. (in a face-to-face class this would be an in-class activity and discussion)

## Research Data Management and Digital Curation

- \*Please watch this short video first. This sums up much of what is going on in data sharing and the challenges data curators face on a day-to-day basis. Enjoy. <http://www.youtube.com/watch?v=N2zK3sAtr-4> (in a face-to-face class this would be an in class activity and discussion)
- Digital Curation Centre. *Managing Research Data*. Video Documentary. UK: Piers Video Production, 2012. <http://youtu.be/2JBQS0qKOBu>
- Oliver, Gillian & Ross Harvey. "Introduction" (3-18), "The Changing Landscape" (19-31), and "Conceptual Models" (33-44) in Gillian Oliver & Ross Harvey, *Digital Curation* (Chicago: Neal Schuman, 2016).
- Ogburn, Joyce. "The Imperative for Data Curation." *portal: Libraries and the Academy* 10/2 (2010): 241-246. (<https://muse.jhu.edu/article/378049>)
- Poole, Alex H. "The Conceptual Landscape of Digital Curation." *Journal of Documentation* 72/5 (November 2016): 961-986. <https://www.emeraldinsight-com.libproxy.lib.unc.edu/doi/pdfplus/10.1108/JD-10-2015-0123>
- Pryor, Graham. "Why Manage Research Data?" In Graham Pryor (ed.), *Research Data Management*, Chapter 1 (London: Facet, 2012), 1-16. In Canvas.

## Lesson 2: September 1 - 14: Lifecycle Approaches and Disciplinary Models

### Objectives:

- ❖ Begin to understand the digital curation lifecycle from conceptualization through disposition (we will continue to explore this all semester).
- ❖ Discuss the importance of a life cycle approach to digital curation.
- ❖ Identify concepts, principles, tools, practices, and terminology that are central to data curation and management.
- ❖ Explore key knowledge and competencies for data curators.

### Forum Questions for the Week: (Please post by September 13).

1. What is so important about a lifecycle approach to caring for digital content? Provide a minimum of 3 reasons.
2. What is your impression of the DCC Data Curation Lifecycle model? How might you improve it?

## A Lifecycle Approach

- DCC Curation Lifecycle Model. <https://www.dcc.ac.uk/guidance/curation-lifecycle-model>.
- Higgins, Sarah. "The DCC Curation Lifecycle Model." *International Journal of Digital Curation*, Vol 3, No 1 (2008). <http://www.ijdc.net/index.php/ijdc/article/view/69>.

## Disciplinary Models

- Lee, Christopher. Matrix of Digital Curation Knowledge and Competencies: <http://ils.unc.edu/digccurr/digccurr-matrix.html>
- CCSDS 650.0-M-2: Reference Model for an Open Archival Information System (OAIS). Magenta Book. June 2012. [This Recommendation has been adopted as ISO 14721:2012. <http://public.ccsds.org/publications/archive/650x0m2.pdf>.

## Lesson 3: September 15 – 28: Data: Big, Little, Good, and Bad

### Objectives:

- ❖ Students will be able to define data.
- ❖ Students will be able to define good data and cite their characteristics.
- ❖ Student will be able to discuss issues surrounding big data.

### Forum Questions for the Week: (Please post by September 27 by 11:55 PM).

1. Data Email: Your grandparents find out that you have started a graduate program in data curation and send you a congratulatory e-card! At the bottom, they ask "By the way, what are data anyway?" Respond to their query by defining data and the three most important characteristics of "good data" in laymen's terms.
2. What is your favorite definition of data and why?
3. What are the characteristics of big data?
4. What is the most important of the 5 V's of Big Data?
5. Why is small data also important?

### Data

- Bell, G., Hey, T., and Szalay, A. "[Beyond the Data Deluge](#)." *Science*, 323 (5919 6 March 2009), 1297-1298.
- Carlson, Samuelle, and Ben Anderson, "[What are Data? The Many Kinds of Data and The Implications for Data Re-use](#)." *Journal of Computer-Mediated Communication*, 12/2 (2007): 301-317.
- Harvey, Ross. "Defining Data." in Gillian Oliver & Ross Harvey, *Digital Curation* (Chicago: Neal Schuman, 2016), 45-52.
- Heidorn, Bryan P. "[Shedding Light on the Dark Data in the Long Tail of Science](#)." *Library Trends* 57, no. 2 (2008): 280-299.



- Odum Institute. “[What Are Data?](#)” Video. March 3, 2016. 2:49 minutes.

### Big Data

- Haider, Murtaza and Gandomi, Amir. “[Beyond the Hype: Big Data Concepts, Methods, and Analytics.](#)” *International Journal of Information Management*, 35/2 (2015): 137–144.
- Johnson, Jeffrey, Peter Denning, Kemal A. Delic, and David Sousa-Rodrigues. “[Big Data: Big Data or Big Brother? That is the Question Now.](#)” *Ubiquity* - Association for Computing Machinery Vol. 2018 (August 2018): 1-10.
- Johnson, Jeffrey; Peter Denning; David Sousa-Rodrigues; and Kemal A. Delic. “[Big Data, Digitization, and Social Change.](#)” Opening Statement *Ubiquity* - Association for Computing Machinery Vol. 2017 (December 2017): 1-8.
- Johnson, Jeffrey et al. “[Big Data: Business, Technology, Education, and Science.](#)” *Ubiquity* Association for Computing Machinery Vol. 2018 (July 2018): 1-13.
- Schroeder, Ralph. “[Big Data Business Models: Challenges and Opportunities.](#)” *Cogent Social Sciences*; Abingdon 2/1 (December 2016).
- Wang, Trica. “[The Human Insights Missing from Big Data.](#)” TED Talk. (September 2016).

### Midterm: October 5:

Midterm exam will be distributed on Thursday, September 28, and is due Wednesday, October 4.

### Lesson 4: October 6 - 19: Data: Open and FAIR

Students will be able to define Open Data.

- ❖ Students will be able to discuss the infrastructure needed for Open Data.
- ❖ Students will be able to list several challenges associated with Open Data.
- ❖ Students will be able to list and discuss the factors of FAIR Data.

### Forum Questions for the Week: (Please post by October 18 by 11:55 PM).

- List and explain the complete set of characteristics of FAIR data.
- Which two characteristics of FAIR data do you think are the most important?
- What makes open data open and why should we care?
- What are the key challenges with open data?

### Open Data:

- Ayre, Lori B., and Jim Craner. “[Open Data: What It Is and Why You Should Care.](#)” *Public Library Quarterly*, 36/2 (April-June 2017): 173-184.

- Castro, Eleni et al. “[Evaluating and Promoting Open Data Practices in Open Access Journals.](#)” *Journal of Scholarly Publishing* 49/1 (Oct 2017): 66-88.
- McNutt, John G. et al. “[The Diffusion of Civic Technology and Open Government in the United States.](#)” *Information Polity* 21 (2016): 153–170.
- Obama, Barack H. “[Transparency and Open Government. Memorandum for the Heads of Executive Departments and Agencies.](#)” (Jan. 21, 2009).
- Okamoto, Karen. “[Introducing Open Government Data.](#)” *The Reference Librarian* 58/2 (2017): 111-123.
- Sansone, Susanna-Assunta, Patricia Cruse, and Mark Thorley. “[High-quality Science Requires High-quality Open Data Infrastructure.](#)” Comment. *Scientific Data* Vol. 5, Article number: 180027 (2018).

#### FAIR Data:

- Huwe, Terence K. “[Libraries and the New Culture of Trust.](#)” *Computers in Libraries* 35/5 (June 2015): 21-24.
- Mons, Barend, et al. “[Cloudy, Increasingly FAIR; Revisiting the FAIR Data Guiding Principles for the European Open Science Cloud.](#)” *Information Services & Use*, vol. 37, no. 1, pp. 49-56, March 2017.
- Wilkinson, MD, et al. “[Wilkinson, MD, et al. “Comment: A Design Framework and Exemplar Metrics for FAIRness.”](#) *Scientific Data*, 5, Article number: 160018 (2018).
- Wilkinson, MD, et al. “[The FAIR Guiding Principles for Scientific Data Management and Stewardship.](#)” *Scientific Data*, 3, Article number: 160018 (2016).

### Lesson 5: October 20 – November 2: Data Quality.

#### Objectives:

- ❖ Students will be able to list factors that lead to poor data quality.
- ❖ Students will learn why poor data quality costs organizations time and money.
- ❖ Students will be able to discuss ways that data quality and data curation overlap.
- ❖ Students will be able to list major business drivers for data quality.
- ❖ Students will be able to list and explain the principles underlying data quality programs.

**Forum Questions for the Week: (Please post by November 1 by 11:55 PM).**

1. How does data quality relate to the data management lifecycle?
2. What are the most important drivers of data quality?
3. How do you convince others in your organization that data quality is important?

**Data Quality.**

- Data Management - Data Quality. <https://www.youtube.com/watch?v=kDOelMaTOuM>
- DQ vs. MDM. Video. 6:14 min. <https://www.youtube.com/watch?v=dspdToaROn8>
- Implementing Effective Data Quality. <https://www.youtube.com/watch?v=OKLeAitmCcU>
- Moore, Susan. How to Create a Business Case for Data Quality Improvement (June 19, 2018) <https://www.gartner.com/smarterwithgartner/how-to-create-a-business-case-for-data-quality-improvement>

**DUE: Data Curation Plan for Student's Own Data – Tuesday, November 1.**

**Lesson 6: November 3 – 16: Data Management Plans.**

**Objectives:**

- ❖ Students will be able to list and discuss elements that constitute an effective data management plan.
- ❖ Students will be able to discuss the need for a data management plan, citing at least 3 reasons.
- ❖ Students will be able to analyze the strengths and weaknesses of various data management plans and suggest improvements.

**Forum Questions for the Week: (Please post by November 15 at 11:55 PM).**

1. Why is having a good data management plan important whenever a researcher plans a project, whether in academia, business, or the government?
2. What are the 3 most important elements of a data management plan and why?
3. What are the 3 most common weaknesses of data management plans as instituted in academia for grant purposes?

**Readings:**

- Harvey, Ross, "Preservation Planning and Policy," in Gillian Oliver & Ross Harvey, *Digital Curation* (Chicago: Neal Schuman, 2016), 83-92.
- Haywood, Jeff. [Research Data Management Policies](#). Video. Edinburgh, UK: University of Edinburgh.
- *Nature*. ["Everyone Needs a Data-Management Plan."](#) Editorial. 555, 286 (March 13, 2018).



- Schiermeier, Quirin. [“Data Management Made Simple: Keeping Your Research Data Freely Available is Crucial for Open Science — and your Funding Could Depend on It.”](#) *Nature* 555 (March 13, 2018): 403-405.
- University of North Carolina at Chapel Hill. Provost’s Taskforce on the Stewardship of Digital Research Data. [“Research Data Stewardship at UNC: Recommendations for Scholarly Practice and Leadership.”](#) Chapel Hill: UNC, February 15, 2012.
- Williams, Mary, Jacqueline Bagwell, and Meredith Nahm Zozus. “Data Management Plans: The Missing Perspective.” <https://www-sciencedirect-com.libproxy.lib.unc.edu/science/article/pii/S1532046417300990> *Journal of Biomedical Informatics* Vol. 71 (July 2017): 130-142.

### Tools to Explore:

- DataOne. Data Management Plans. <https://www.dataone.org/data-management-planning>
- DCC. Data Management Plans. <http://www.dcc.ac.uk/resources/data-management-plans>
- DPM Tool. <https://dmptool.org/>.
- ICPSR. “Guidelines for Effective Data Management Plans.” <http://www.icpsr.umich.edu/icpsrweb/ICPSR/dmp/index.jsp>
- MIT Libraries. “Data Management: Helping MIT Faculty and Researchers Manage, Store, and Share Data They Produce.” <https://libraries.mit.edu/data-management/>
- NASA. “Data Management Plans.” <https://www.nasa.gov/open/researchaccess/data-mgmt>
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## Lesson 7: November 17-30: Ethical and Appropriate Use of Data (e.g., GDPR, laws, compliance)

### Objectives:

- ❖ Students will be able to discuss the GDPR and its potential impact on corporations, both in the US and abroad.
- ❖ Students will be able to discuss the challenges of ethical and appropriate use of data in the world of Open Data.
- ❖ Students will learn about data protection laws in the US that govern the use of data.

### Forum Questions for the Week: (Please post by November 29 by 11:55 PM).

1. What are the goals of the GDPR?
2. What impact is the GDPR likely to have?
3. Discuss two key challenges of ethical and appropriate use of data in the age of data science?
4. What rights are afforded to individuals in the US regarding data protection?

### Data and Ethics

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## December 8: Final Exam