

LIS S305

Data Curation and Management

Department of Library and Information Science

Indiana University School of Informatics and Computing

Indianapolis

Spring 2022

Section No.:	23964
Instruction Mode:	Online only, asynchronous
Prerequisites:	None
Instructor:	Rachel Erpelding
Email:	rabehnke@iu.edu (use Canvas Inbox for course matters)
Office Hours:	By Appointment

Course Description:

This course introduces concepts of data curation and management with applications. Students explore the characteristics of data and data-curation lifecycle activities, such as the design of data through content-creator management; metadata creation; entry into a database system or a repository; access policies and implementation; and data reuse.

Extended Course Description:

This course understands data curation as an active and ongoing management of data through its lifecycle, and adding values to the data in a way to be useful to scholarship, science, education, and any other relevant stakeholders (e.g., business, industry). Students explore the characteristics of data and data-curation lifecycle activities, such as the design of data through content-creator management; metadata creation; entry into a database system or a repository; access policies and implementation; and data reuse.

This course is a required course for the Data Studies Minor and Applied Data and Information Science Major curriculum and provides students the basic knowledge they must acquire to be prepared for the more specialized and elective courses offered in this program.

Required Texts:

None, course readings will be provided.

Equipment Needed:

A reliable computer running Windows, Mac OS, or Linux operating system. Please visit <http://informatics.iupui.edu/technology/laptop> for information on the Laptop Initiative for Informatics majors.

For PC users, you need to have the most recent version of Firefox or Chrome. For Mac users, you need to have the most recent version of Safari, Firefox, or Chrome.

To successfully complete this course, students must:

- Have adequate computing skills, including but not limited to the use of Microsoft Office suite or equivalent to process, save, and retrieve documents.
- Learn how to submit your assignments using Canvas.

Technology Support

For Canvas questions please see the "Help" tool on the left side of every page and check the [UIITS Knowledge Base](#) (KB) for more information (type "Canvas" in the KB search box for a full list of Canvas-related topics).

If you have questions about or issues with any of the technology used in this course please contact the University Information Technology Services (UIITS) support team. You can contact the support team in the following ways:

- Call 317-274-4357
- Email ithelp@iu.edu
- [Live Chat](#)
- If you are on campus, you can walk in at ICTC 129

Netiquette

One thing to always keep in mind when taking an online course is that the others with which you interact throughout the semester - including your facilitators - are human beings and worthy of respect. The first rule of [netiquette](#) is to "**remember the human**" when you are communicating with us or with your peers. When everyone works together in a professional and collegial manner it creates a more positive experience for all.

The second rule is to "adhere to the same standards of behavior online that you follow in real life." It's not likely that you would yell at, mock, belittle, bully, or harass another student in (or outside of) a face to face class, so please don't do it here either. The feeling of anonymity that some people have when they are online can lead to those sorts of behaviors but they are not acceptable here or in any other online class. To help make sure your text comments are received in the manner you meant, please feel free to use emoticons such as :-), ;-), or _(ツ)_/ if you think your humor may be taken as serious. :-)

Please take a few minutes before we begin and review all the [Core Rules of Netiquette](#).

Course Site:

We have access to a Canvas course site (<https://canvas.iu.edu/>). I will use this site as a way to post updates, store documents, receive assignments, and to accommodate online learning activities. These activities will include weekly video lectures, reading assignments, discussions, and homework. It is your responsibility to review the course site multiple times a week.

Learning Outcomes

Upon completion of this course, students will	RBT	PLUS	Assessment
Recognize the urgency of and need for long-term data curation in public and private venues.	3, 4	P2.1 P2.3	Discussion, Quiz
Understand the characteristics of various data types generated and used by a variety of disciplines, sub-disciplines, research communities, and government organizations.	2, 4	P2.1 P2.3	Discussion, Quiz
Understand both theoretical and practical issues in data curation from a range of perspectives.	2, 4	P2.1 P2.2 P1.4	Discussion, Quiz, Final Exam
Describe data curation concepts, terms, tools, and technologies.	2	P2.3 P3.1 P1.4	Discussion, Quiz, Paper, Final Exam
Identify the activities associated with each stage of the data curation lifecycle and their social, legal, ethical, and policy implications.	2, 3	P2.1 P2.3 P2.1	Discussion, Quiz, Final Exam
Understand roles and responsibilities for data curators.	2	P2.3 P2.1	Discussion, Quiz
Understand critical issues associated with the storage, backup, and security of data.	2	P2.1 P2.3	Discussion, Quiz

* [RBT: Revised Bloom's Taxonomy](#)

** [PLUS: Profiles of Learning for Undergraduate Success](#)

Profiles Of Learning For Undergraduate Success (PLUS):

- P1.4 Communicator – Conveys ideas effectively
- P2.1 Problem Solver – Thinks critically
- P2.3 Problem Solver – Analyzes, synthesizes, and evaluates
- P3.1 Innovator – Creates/designs

LEARNING ASSESSMENTS

This table provides a brief summary of the assignment names, due dates, and grade distribution. A fuller description for each assignment follows the table.

Assignment	Module	Percentage
Introductory Assignments	Introductory Module	2.5% (2.5 Points)
Quizzes	Modules 3, 4, 5, 6, 7, 10, 11,	7 total quizzes at 5 points each 35% (35 Points)
Online Discussion	Modules 1, 2, 5, 7, 8, 10, 11, 12, 13, 15	10 Online Discussion Forum at 3 points each 30% (30 Points)
Data Curation Paper	Module 14	12.5% (12.5 Points)
Final Exam	Final Exam Week	20% (20 Points)
	Due May 7th at 11:59 pm	
Total		100% (100 points)

Quizzes (35%)

Quizzes serve as a primary tool for learning and assessment in this course, which is why it is collectively worth 35 percent of your total grade. This course requires you to deeply engage data concepts and practices, and these concepts and practices build on each other. It is imperative that you engage with each week's homework carefully and purposefully.

Structurally, the quizzes will be administered via Canvas and will be submitted through Canvas. Each Homework is worth 5 points each. Questions will range from simple true/false, multiple-choice, and matching.

There will be a total of 7 quizzes worth 5 points each, for a total of 35 points.

Online Discussion (30%)

Ten times throughout the semester you will be exploring topics and readings through online discussion forums. You are expected to participate in the discussion forum by offering ideas, including your own thoughts as well as pulling from sources outside of the class readings, and interacting with your fellow classmates through the discussion forum. To participate in the online discussion I will provide a prompt and/or question of what should be discussed.

Each online discussion forum is worth 3 points and there will be a total of ten discussions, for a total of 30 points.

Data Curation Paper (12.5%)

Choose a topic(s) that is of interest to you in relation to data curation and its importance. Research that topic and produce a 5-7 page, 12-point font, double-spaced paper exploring the topic(s).

Your paper should include:

- An overview of the topic
- Current data practices that are part of the topic
- Your opinion (supported by research) of ways data producers and data users are impacted by the topic.
- Your opinion (supported by research) of changes in data practices that could be implemented.

Your paper should include at least 5 citations and follow APA style guidelines (<https://owl.english.purdue.edu/owl/resource/560/01/>).

Submitted file upload via Canvas.

Final Exam (20%)

A final exam will be administered during finals week. This is a cumulative exam based on the course content for the semester. Students will demonstrate their understanding of concepts, terminology, and also the application of the topics covered throughout the course.

Administered through Canvas.

EXPECTATIONS, GUIDELINES, AND POLICIES

Attendance:

A basic requirement of this course is that you will participate in all online activities and conscientiously complete all required course activities and assignments. This is your attendance.

This course assumes that students can work independently. There are no required face-to-face meetings. There are no required synchronous online meetings. However, students are encouraged to e-mail or arrange an online chat with the instructor at any time, if needed.

Incomplete:

The instructor may assign an Incomplete (I) grade only if at least 75% of the required coursework has been completed at passing quality and holding you to previously established time limits would result in unjust hardship to you. All unfinished work must be completed by the date set by the instructor. Left unchanged, an Incomplete automatically becomes an F after one year. For information on incompletes visit the website, <https://studentcentral.iupui.edu/grades-progress/incompletes.html>.

Late Work

You are responsible for completing each deliverable (e.g., assignment, homework) by its deadline and submitting it by the specified method. Deadlines are outlined in the syllabus or in supplementary documents accessible through Canvas. In fairness to the instructor and students who completed their work on time, a grade on a deliverable shall be reduced 10%, if it is submitted late and a further 10% for each 24-hour period it is submitted after the deadline

CODE OF CONDUCT

All students should aspire to the highest standards of academic integrity. Using another student's work on an assignment, cheating on a test, not quoting or citing references correctly, or any other form of dishonesty or plagiarism shall result in a grade of zero on the item and possibly an F in the course. Incidences of academic misconduct shall be referred to the Department Chair and repeated violations shall result in dismissal from the program.

All students are responsible for reading, understanding, and applying the *Code of Student Rights, Responsibilities and Conduct* and in particular the section on academic misconduct. Refer to *The Code > Responsibilities > Academic Misconduct* at <http://www.indiana.edu/~code/>. All students must also successfully complete the Indiana University Department of Education "How to Recognize Plagiarism" Tutorial and Test. <https://www.indiana.edu/~istd>. You must document the difference between your writing and that of others. Use quotation marks in addition to a citation, page number, and reference whenever writing someone else's words (e.g., following the *Publication Manual of the American Psychological Association*). To detect plagiarism instructors apply a range of methods, including Turnitin.com. <https://kb.iu.edu/d/adv5>

Academic Misconduct:

1. **Cheating:** ^{[[SEP]]}Cheating is considered to be an attempt to use or provide unauthorized assistance, materials, information, or study aids in any form and in any academic exercise or environment.
 1. A student must not use external assistance on any "in-class" or "take-home" examination, unless the instructor specifically has authorized external assistance. This prohibition includes, but is not limited to, the use of tutors, books, notes, calculators, computers, and wireless communication devices.
 2. A student must not use another person as a substitute in the taking of an examination or quiz, nor allow other persons to conduct research or to prepare

work, without advanced authorization from the instructor to whom the work is being submitted.

3. A student must not use materials from a commercial term paper company, files of papers prepared by other persons, or submit documents found on the Internet.
 4. A student must not collaborate with other persons on a particular project and submit a copy of a written report that is represented explicitly or implicitly as the student's individual work.
 5. A student must not use any unauthorized assistance in a laboratory, at a computer terminal, or on fieldwork.
 6. A student must not steal examinations or other course materials, including but not limited to, physical copies and photographic or electronic images.
 7. A student must not submit substantial portions of the same academic work for credit or honors more than once without permission of the instructor or program to whom the work is being submitted.
 8. A student must not, without authorization, alter a grade or score in any way, nor alter answers on a returned exam or assignment for credit.
2. **Fabrication:** A student must not falsify or invent any information or data in an academic exercise including, but not limited to, records or reports, laboratory results, and citation to the sources of information.
 3. **Plagiarism:** Plagiarism is defined as presenting someone else's work, including the work of other students, as one's own. Any ideas or materials taken from another source for either written or oral use must be fully acknowledged, unless the information is common knowledge. What is considered "common knowledge" may differ from course to course.
 1. A student must not adopt or reproduce ideas, opinions, theories, formulas, graphics, or pictures of another person without acknowledgment.
 2. A student must give credit to the originality of others and acknowledge indebtedness whenever:^[L]_[SEP]
 1. directly quoting another person's actual words, whether oral or written;
 2. using another person's ideas, opinions, or theories;
 3. paraphrasing the words, ideas, opinions, or theories of others, whether oral or written;
 4. borrowing facts, statistics, or illustrative material; or
 5. offering materials assembled or collected by others in the form of projects or collections without acknowledgment
 4. **Interference:**^[L]_[SEP] A student must not steal, change, destroy, or impede another student's work, nor should the student unjustly attempt, through a bribe, a promise of favors or threats, to affect any student's grade or the evaluation of academic performance. Impeding another student's work includes, but is not limited to, the theft, defacement, or mutilation of resources so as to deprive others of the information they contain.
 5. **Violation of Course Rules:**^[L]_[SEP] A student must not violate course rules established by a department, the course syllabus, verbal or written instructions, or the course materials that are rationally related to the content of the course or to the enhancement of the learning process in the course.
 6. **Facilitating Academic Dishonesty:**^[L]_[SEP] A student must not intentionally or knowingly help or attempt to help another student to commit an act of academic misconduct, nor allow another student to use his or her work or resources to commit an act of misconduct.

OTHER POLICIES

1. **Administrative withdrawal:** Students must participate in all class discussions and conscientiously complete all required course activities and/or assignments. If a student is unable to attend, participate in, or complete an assignment on time, the student must inform the instructor. If a student misses more than half of the required activities within the first 25% of the course without contacting the instructor, the student may be administratively withdrawn from this course. Administrative withdrawal may have academic, financial, and financial aid implications. Administrative withdrawal occurs after the full refund period, and a student who has been administratively withdrawn is ineligible for a tuition refund.
2. **Civility:** To maintain an effective and inclusive learning environment, it is important to be an attentive and respectful participant in lectures, discussions, group work, and other classroom exercises. Thus, unnecessary disruptions should be avoided, such as ringing cell phones, engagement in private conversations, and other unrelated activities. Cell phones, media players, or any noisy devices should be turned off during a class. Texting, web surfing, and posting to social media are generally not permitted. Laptop use may be permitted if it is used for taking notes or conducting class activities. Students should check with the instructor about permissible devices in class. IUPUI nurtures and promotes “a campus climate that seeks, values, and cultivates diversity in all of its forms and that provides conditions necessary for all campus community members to feel welcomed, supported, included, and valued” (IUPUI Strategic Initiative 9). IUPUI prohibits “discrimination against anyone for reasons of race, color, religion, national origin, sex, sexual orientation, marital status, age, disability, or veteran status” (Office of Equal Opportunity). Profanity or derogatory comments about the instructor, fellow students, invited speakers or other classroom visitors, or any members of the campus community shall not be tolerated. A violation of this rule shall result in a warning and, if the offense continues, possible disciplinary action.
3. **Communication:** For classroom-based courses, the instructor or teaching assistant should respond to emails by the end of the next class or, for online courses, within two Indiana University working days, which excludes weekends and holidays. The instructor should provide weekly office hours or accept appointments for face-to-face, telephone, or teleconferenced meetings, and announce periods of extended absence in advance.
4. **Counseling and Psychological Services (CAPS):** Students seeking counseling or other psychological services should contact the CAPS office at 274-2548 or capsindy@iupui.edu. For more information visit <https://studentaffairs.iupui.edu/health/index.html>.
5. **Course evaluations:** Course evaluations provide vital information for improving the quality of courses and programs. Students are urged to complete one course and instructor evaluation for each section in which they are enrolled at the School of Informatics and Computing with the following exceptions: (a) The student has withdrawn from the course; (b) fewer than five students are enrolled in the section (in which case maintaining anonymity is difficult); and (c) the section is a laboratory that must be taken with a course having a different section number. Course evaluations are typically open from the eleventh week. Course evaluations are anonymous, which means that no one can view the name of the student completing the evaluation. In addition, no one can view the

evaluation itself until after the instructor has submitted the final grades. In small sections, demographic information should be left blank, if it could be used to identify the student.

6. **Disabilities policy:** All qualified students enrolled in this course are entitled to reasonable accommodations for a disability. Notify the instructor during the first week of class of accommodations needed. Students requiring accommodations register with Adaptive Educational Services (AES) and complete the appropriate AES-issued before receiving accommodations. The AES office is located at UC 100, Taylor Hall (Email: aes@iupui.edu, Tel. 317 274-3241). For more information visit <http://aes.iupui.edu>.
7. **Email:** Indiana University uses your IU email account as an official means of communication, and students should check it daily. Although you may have your IU email forwarded to an outside email account, please email faculty and staff from your IU email account.
8. **Emergency preparedness:** Know what to do in an emergency so that you can protect yourself and others. For more information, visit the emergency management website at <http://protect.iu.edu/emergency>.
9. **IUPUI course policies:** A number of campus policies governing IUPUI courses may be found at the following link: <https://studentcentral.iupui.edu/register/index.html>
10. **Right to revise:** The instructor reserves the right to make changes to this syllabus as necessary and, in such an event, will notify students of the changes immediately.
11. **Sexual misconduct:** IU does not tolerate sexual harassment or violence. For more information and resources, visit <http://stopsexualviolence.iu.edu/>.
12. **Student advocate:** The Student Advocate assists students with personal, financial, and academic issues. The Student Advocate is in the Campus Center, Suite 350, and may also be contacted at 317 274-4431 or studvoc@iupui.edu. For more information visit <https://studentaffairs.iupui.edu/advocacy-resources/get-help/index.html>.

Mission Statement

The Mission of IUPUI is to provide for its constituents excellence in

- Teaching and Learning;
- Research, Scholarship, and Creative Activity; and
- Civic Engagement.

With each of these core activities characterized by

- Collaboration within and across disciplines and with the community;
- A commitment to ensuring diversity; and
- Pursuit of best practices.

IUPUI's mission is derived from and aligned with the principal components—Communities of Learning, Responsibilities of Excellence, Accountability and Best Practices—of Indiana University's Strategic Directions Charter.

Statement Of Values

IUPUI values the commitment of students to learning; of faculty to the highest standards of teaching, scholarship, and service; and of staff to the highest standards of service. IUPUI recognizes students as partners in learning. IUPUI values the opportunities afforded by its location in Indiana's capital city and is committed to serving the needs of its community. Thus, IUPUI students, faculty, and staff are involved in the community, both to provide educational programs and patient care and to apply learning to community needs through service. As a leader in fostering collaborative relationships, IUPUI values collegiality, cooperation, creativity, innovation, and entrepreneurship as well as honesty, integrity, and support for open inquiry and dissemination of findings. IUPUI is committed to the personal and professional development of its students, faculty, and staff and to continuous improvement of its programs and services.

GRADING SCALE

Grades will be assigned based on the [IUPUI grading scale](#).

- A+ 97–100% Professional level work, showing highest level of achievement
- A 93–96.99% Extraordinarily high achievement, quality of work; shows command of the subject matter
- A– 90–92.99% Excellent and thorough knowledge of the subject matter
- B+ 87–89.99% Above average understanding of material and quality of work
- B 83–86.99% Mastery and fulfillment of all course requirements; good, acceptable work
- B– 80–82.99% Satisfactory quality of work
- C+ 77–79.99% Modestly acceptable performance and quality of work
- C 73–76.99% Minimally acceptable performance and quality of work
- C– 70–72.99% Unacceptable work (Core course must be repeated for credit)
- D+ 67–69.99% Unacceptable work (Course must be repeated for credit)
- D 63–66.99% Unacceptable work
- D– 60–62.99% Unacceptable work
- F Below 60 Unacceptable work

No credits are granted for a grade below C.

SEMESTER STRUCTURE

Overview:

Structurally, this course covers sixteen weeks. Fourteen of those weeks included substantive content; three weeks account for the intro to the course, Spring Break, and finals week. The semester is broken down into thematic units with their own interconnected modules. There is a new module each week. Each module iteratively builds on those that came before it.

Semester Grid and Module Breakdown

Week/Module	Start Date	End Date
Introduction to the Course Module	Monday, January 10 th	Sunday, January 16 th
Module 1: Introduction to Data Curation	Monday, January 17 st	Sunday, January 23 th
Module 2: TBA	Monday, January 24 th	Sunday, January 30 rd
Module 3: TBA	Monday, January 31	Sunday, February 10 th
Module 4: TBA	Monday, February 7 th	Sunday, February 13 th
Module 5: TBA	Monday, February 14 th	Sunday, February 20 th
Module 6: Ingesting and Storing Data	Monday, February 21 th	Sunday, February 27 nd
Module 7: Data Preservation Methods	Monday, February 28 th	Sunday, March 6 th
Module 8: Data Archives and Repositories	Monday, March 7 th	Sunday, March 13 th

Module 9: Spring Break – No Class	Monday, March 14th	Sunday, March 20th
Module 10: Additional Curation Considerations	Monday, March 21 st	Sunday, March 27 th
Module 11: TBA	Monday, March 28 th	Sunday, April 3 rd
Module 12: TBA	Monday, April 4 th	Sunday, April 10 th
Module 13: TBA	Monday, April 11 th	Sunday, April 17 th
Module 14: Data Curation: In Practice	Monday, April 18 st	Sunday, April 24 th
Module 15: Review and Prep for Final Exam	Monday, April 25 th	Sunday, May 1 st
Finals Week (4/29-5/8)	Final Exam Due 5/6 at 11:59pm	