



FLORIDA STATE UNIVERSITY
COLLEGE OF COMMUNICATION & INFORMATION
School of Information

LIS5341– Data Organization (3 credits)

TERM | DAY/TIME | LOCATION

MODE OF INSTRUCTION: Online

“Students all meet with instructor for class, synchronously, using a multi-media conferencing system such as Collaborate, at a specific class time indicated in the University’s course schedule for each semester. Additional asynchronous interactions (e.g., discussion forums) among students and with instructor may also be required to complete the course.”

Instructor:

Email:

Office:

Phone:

Course Location/Website:

Office Hours:

Teaching Assistant:

TA Email:

COURSE DESCRIPTION:

Students will learn core concepts associated with electronic data, both structured and unstructured, and its representation, relationships, organization, and use. Students will learn about knowledge structures and standards used to represent data and ensure interoperability and scalability. This course is a complement to database management and will help prepare students to engage in effective data analytics and data science.

COURSE OBJECTIVES:

At the end of the course, the student will be able to:

1. Apply appropriate methods to represent electronic data
2. Analyze use cases for data to determine appropriate representation (e.g., metadata, ontologies)
3. Explain how data organization works in contexts of data creation and use
4. Locate existing standards for data organization and apply them appropriately in context
5. Demonstrate how data organization methods scale in contexts of size, heterogeneity, and time

COURSE MATERIALS:

Readings as assigned and posted to the course site.

COURSE ASSIGNMENTS AND EVALUATION:

Learning Activity/Assessment	Objective #	Description
Project: organizing structured data	1, 2	Given a use case and a set of numeric data, students will determine appropriate data representation and apply methods to accomplish data representation
Project: organizing text/visual/object data objects	1, 2	Given a use case and a set of text/visual/object data, students will determine appropriate data representation and apply methods to accomplish data representation
Project: mapping data into a knowledge structure & planning for scalability	4, 5	Given a set of heterogeneous data, students will locate relevant data organization standards and apply them, demonstrating that the resulting data organization will scale in context of size and time.
Case/Application: Selecting a dataset and reverse engineering its organizing principles	2, 3	Given a set of criteria for selection, students will select an existing dataset and reverse engineer its organizing principles.
Case/Application: Representing a specific dataset for a use case	2, 3	Given a use case and a selection of datasets, students will select one dataset and explain how to improve the representation and organization of its data for a specific use case.
Case/Application: Visual/media presentation about original data organization project	1, 4, 5	Students will identify and select a dataset, identify a use case, locate existing standards for data organization, apply them to this dataset in this context, and demonstrate through a visual/media presentation how the data organization standard application to this dataset serves the use case and is scalable in size, heterogeneity of data, and over time.

GRADE CALCULATION:

Project: Organizing structured data	15 pts
Project: Project: organizing text/visual/object data objects	15 pts
Project: mapping data into a knowledge structure & planning for scalability	15 pts
Case/application: Selecting a dataset and reverse engineering its organizing principles	15 pts
Case/application: Representing a specific dataset for a use case	15 pts
Case application: Visual/media presentation about original data organization project	25 pts
Total points possible:	100 pts

GRADING SCALE (points)

A	93 - 100	C	73 – <77
A-	90 – <93	C-	70 – <73
B+	87 – <90	D+	67 – <70
B	83 – <87	D	63 – <67
B-	80 – <83	D-	60 – <63
C+	77 – <80	F	00 – <60

COURSE SCHEDULE:

WEEK	TOPICS TO BE COVERED
1	Basic concepts of data and databases <ul style="list-style-type: none">a. Data typesb. Data domains
2	Basic concepts of data and databases <ul style="list-style-type: none">a. Metadata
3	Basic concepts of data organization – how does it articulate with database design, data modeling? (i.e., how did I craft a perfect database and it's not usable, shareable, and/or scalable?)
4	Relationship between in vivo retrieval and data organization decisions
5	Conceptual data organization <ul style="list-style-type: none">a. Entitiesb. Relationshipsc. Intrinsic attributesd. Assigned attributes
6	Data organization as a way to facilitate aggregation of entities in response to retrieval demands (conceptual, visual, text, and statistical)
7	Standards for data organization: what they are, who makes them
8	Standards for data organization: how to use them
9	Personal data organization and shared data organization (relationships between personal data, small data, big data, and team science)
10	Information architecture; how data structures relate to representational structures
11	UX design; how data organization shapes and is shaped by user needs and effective design
12	Knowledge structures that represent data (ontology, taxonomy) <ul style="list-style-type: none">a. hierarchical relationshipsb. lateral relationshipsc. design of structuresd. features of ontologies
13	Mapping data into knowledge structures
14	Interoperability and scalability case studies
15	Data organization as a way to facilitate downstream data analysis
16	<i>Finals Week</i>

SCHOOL POLICIES

Copyright Statement

Some of the materials in this course are possibly copyrighted. They are intended for use only by students registered and enrolled in this course and only for instructional activities associated with, and for the duration of, the course. They may not be retained in another medium or disseminated further. They are provided in compliance with the provisions of the Technology, Education, And Copyright Harmonization (TEACH) Act (refer to the 3/7/2001 TEACH Act at www.copyright.gov/legislation/archive/).

Sexual Harassment Policy

It is the policy of the University that its employees and students neither commit nor condone sexual harassment in any form. http://registrar.fsu.edu/bulletin/graduate/information/university_notices/

iSchool Hardware and Software Requirements

A list of all hardware and software requirements for students participating in the School of Information (iSchool) courses can be found at the following location: <http://ischool.cci.fsu.edu/academics/online/requirements/>

Student Eligibility for an Incomplete Grade

Incomplete ("I") grades will not be assigned, except in the case of exceptional unforeseen circumstances that occur within the last three weeks of the semester and your work has otherwise been satisfactory.

UNIVERSITY POLICIES

University Attendance Policy:

Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

Academic Honor Policy:

The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to "...be honest and truthful and...[to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy, found at <http://fda.fsu.edu/Academics/Academic-Honor-Policy>)

Americans With Disabilities Act:

Florida State University (FSU) values diversity and inclusion; we are committed to a climate of mutual respect and full participation. Our goal is to create learning environments that are usable, equitable, inclusive, and welcoming. FSU is committed to providing reasonable accommodations for all persons with disabilities in a manner that is consistent with academic standards of the course while empowering the student to meet integral requirements of the course.

To receive academic accommodations, a student:

1. must register with and provide documentation to the Office of Accessibility Services (OAS);
2. must provide a letter from OAS to the instructor indicating the need for accommodation and what type; and,
3. should communicate with the instructor, as needed, to discuss recommended accommodations. A request for a meeting may be initiated by the student or the instructor.

Please note that instructors are not allowed to provide classroom accommodations to a student until appropriate verification from the Office of Accessibility Services has been provided. This syllabus and other class materials are available in alternative format upon request. For more information about services available to FSU students with disabilities, contact the

Office of Accessibility Services

874 Traditions Way
108 Student Services Building
Florida State University
Tallahassee, FL 32306-4167
(850) 644-9566 (voice)
(850) 644-8504 (TDD)
oas@fsu.edu
<https://dsst.fsu.edu/oas>

Syllabus Change Policy

"Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice."

Free Tutoring from FSU

On-campus tutoring and writing assistance is available for many courses at Florida State University. For more information, visit the Academic Center for Excellence (ACE) Tutoring Services' comprehensive list of on-campus tutoring options - see <http://ace.fsu.edu/tutoring> or contact tutor@fsu.edu. High-quality tutoring is available by appointment and on a walk-in basis. These services are offered by tutors trained to encourage the highest level of individual academic success while upholding personal academic integrity.

Confidential campus resources:

Various centers and programs are available to assist students with navigating stressors that might impact academic success. These include the following:

Victim Advocate Program

University Center A, Rm. 4100

(850) 644-7161

Available 24/7/365

Office Hours: M-F 8-5

<https://dsst.fsu.edu/vap>

University Counseling Center

Askew Student Life Center, 2nd floor

942 Learning Way

(850) 644-8255

<https://counseling.fsu.edu/>

University Health Services

Health and Wellness Center

(850) 644-6230

<https://uhs.fsu.edu/>