Term Information

Effective Term	Spring 2020

General Information

Course Bulletin Listing/Subject Area	Earth Sciences
Fiscal Unit/Academic Org	School of Earth Sciences - D0656
College/Academic Group	Arts and Sciences
Level/Career	Graduate, Undergraduate
Course Number/Catalog	5501
Course Title	Natural History Museum Data Curation
Transcript Abbreviation	Museum Data Curate
Course Description	An introduction to modern curatorial practice in a museum, with a particular emphasis on natural history collections. Use of public data repository including data acquisition and curation. Process physical specimens and other research materials, and make data available and searchable using electronic means.
Semester Credit Hours/Units	Fixed: 3

Offering Information

Length Of Course	14 Week, 12 Week, 8 Week, 7 Week, 6 Week
Flexibly Scheduled Course	Never
Does any section of this course have a distance education component?	No
Grading Basis	Letter Grade
Repeatable	No
Course Components	Laboratory, Lecture
Grade Roster Component	Lecture
Credit Available by Exam	No
Admission Condition Course	No
Off Campus	Never
Campus of Offering	Columbus

Prerequisites and Exclusions

Prerequisites/Corequisites	Prereq: Permission of instructor
Exclusions	
Electronically Enforced	Yes

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code	40.0601
Subsidy Level	Doctoral Course
Intended Rank	Senior, Masters, Doctoral

Requirement/Elective Designation

The course is an elective (for this or other units) or is a service course for other units

Course Details

Course goals or learning objectives/outcomes

- Students learn through classroom discussion and experience the methods of curatorial practice necessary to facilitate museum research. Concepts and methods applied to the management of natural history objects and electronic data are emphasized;
- Concepts & methods used in museums having other thematic emphases also are discussed. Students experience intellectual growth through critical thinking, data handling, problem-solving, application of knowledge, and working and communicating w/ others

Content Topic List

- What do museums do?
- How do museums meet their fundamental objectives?
- Introduction to museum data management.
- What are the ethical responsibilities of a museum repository?
- How are museum repository data used?
- How physical objects are collected, accessioned, and curated.
- How electronic databases work. Data entry, data management, updating records, digital visualization, searching data records, linking information from varied database systems.

Sought Concurrence

No

Attachments

- Proposed syllabus - Data Curation 2019 v3.docx: syllabus, revised

  (Syllabus. Owner: Panero,Wendy R)
- summary of changes to Earth Sciences 5501.docx: explanation of changes made

  (Other Supporting Documentation. Owner: Panero,Wendy R)

Comments

- See 9-27-19 email to W. Panero *(by Oldroyd,Shelby Quinn on 09/27/2019 04:10 PM)*

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Panero,Wendy R	08/28/2019 03:29 PM	Submitted for Approval
Approved	Panero,Wendy R	08/28/2019 03:31 PM	Unit Approval
Approved	Haddad,Deborah Moore	08/28/2019 04:21 PM	College Approval
Revision Requested	Oldroyd,Shelby Quinn	09/27/2019 04:10 PM	ASCCAO Approval
Submitted	Panero,Wendy R	09/30/2019 10:56 AM	Submitted for Approval
Approved	Panero,Wendy R	09/30/2019 10:56 AM	Unit Approval
Approved	Haddad,Deborah Moore	09/30/2019 01:06 PM	College Approval
Pending Approval	Jenkins,Mary Ellen Bigler Hanlin,Deborah Kay Oldroyd,Shelby Quinn Vankeerbergen,Bernadette Chantal	09/30/2019 01:06 PM	ASCCAO Approval

NATURAL HISTORY MUSEUM DATA CURATION

Earth Sciences (ES) 5501 (proposed)

Proposed for introduction in Spring Semester 2020
To be offered in spring and summer semesters

Credit hours: *3*
Prerequisite: *Permission of instructor.*
Instructor: *Prof. Loren Babcock*
Email: *babcock.5@osu.edu*
Office hours: *Tu, Th 11:00-12:00, or by appointment*

Meeting locations and time:
Lecture/discussion: 82 Orton Hall; time: TBA
Total contact hours per week: 1 hour of instruction plus 4 hours of lab/practicum.
Students can expect to work on their own another 4 hours per week.

Course materials
A packet of readings on the management of data in museum repositories, emphasizing data curation and data use, derived from varied sources such as the primary literature and software documentation, will be available on Carmen.

Course description
This course is an introduction to modern curatorial practice in a museum, with a particular emphasis on natural history collections. Students become acquainted with all aspects of a public data repository including data acquisition, curation, and use. Students learn how to process physical specimens and other research materials, and how to make data pertaining to them available and searchable using electronic means. The use of electronic databases structured for museums is emphasized. Students learn the practice of data entry, data management, data searching, records update, and image visualization. Offered in spring and summer semesters. Graded credit. Prerequisite: permission of instructor.

Course goals
Students learn through classroom discussion and experience the methods of curatorial practice necessary to facilitate museum research. Concepts and methods applied to the management of natural history objects and electronic data are emphasized; concepts and methods used in museums having other thematic emphases also are discussed. Students experience intellectual growth through critical thinking, data handling, problem-solving, application of knowledge, and working and communicating with others.

Learning objectives

Students gain skills necessary for work in a museum environment, including handling of physical data sources in a public repository, electronic data entry, data management, search methods, and computer visualization. Students become better prepared for a STEM-related career.

Course content

WEEKS	TOPICS
1-2	What do museums do? Facilitating research. Serving as a resource for teaching and intellectual growth. Providing information to the public. Reading: Bakker et al. 2019. The Global Museum: natural history collections and the future of evolutionary biology and public collections. PeerJ. https://doi.org/10.7287/peerj.preprints.27666v1 Reading: Holmes et al. 2018. Natural history collections as windows on evolutionary processes. Molecular Ecology. https://doi.org/10.1111/mec.13529
3-4	How do museums meet their fundamental objectives? Curatorial philosophy and procedures. Curating physical objects. Curating data electronically. Methods of providing access to data for researchers and for the general public. Reading: Cook et al. 2014. Natural history collections as emerging resources for innovative education. BioScience 64: 725–734. Project description due (end of week 4), describing the spatial and temporal context of the student's project.
5-7	Introduction to museum data management. Types of data sources: physical objects (specimens, books, manuscripts, artwork, etc.) and electronic data (written data, catalog information, digital images). Reading: Graham et al. 2004. New developments in museum-based informatics and applications in biodiversity analysis. Trends in Ecology & Evolution, 19: 497-503. Interim report due (end of week 6), with two fully described samples to be part of the final project, and revised project description as necessary.
8-9	What are the ethical responsibilities of a museum repository? What physical objects can be accessioned? What data go online? Who has access to the data? How much data should be made available? Sensitivity to cultural issues and ongoing scientific or public discussions.

Reading: Lacey et al. 2017. Climate change, collections and the classroom: using big data to tackle big problems. Evo Edu Outreach 10:2. doi.10.1186/s12052-017-0065-3

10-14 How are museum repository data used?
How physical objects are collected, accessioned, and curated.
How electronic databases work. Data entry, data management, updating records, digital visualization, searching data records, linking information from varied database systems.

Reading: Hudson et al. 2015. Inselect: Automating the digitization of natural history collections. https://doi.org/10.1371/journal.pone.0143402

Reading: Page et al. 2015. Digitization of biodiversity collections reveal biggest data on biodiversity. Bioscience 65: 841–842.

Final report due and presentation to class (week 14).

Assessment

1. Attendance of, and participation in, lectures is expected. Reasonable allowance can be made for absences due to medical issues or other important, justified reasons as determined by the instructor. This is a hands-on course, and therefore missing more than 3 weeks of lab time will make it difficult for a student to satisfactorily master the necessary skills to complete the project.

2. There will be an individual specimen curation project with a three-step reporting process. The student will curate a small collection of specimens through all stages of the curation— from physical accessioning and cataloging, through electronic processing of written and imaging data. The first step is to place the samples in temporal and spatial context, writing a 1-2 page, referenced introduction for the project. The second is a progress check part-way though the course, an interim report on the collection being curated, and its importance or its context. In the final step, the student will turn in a final report and present the results of the curation exercise to the class. In both the interim report and the final report, students will provide some context for their work derived from an understanding and interpretation of some of the salient points raised in the readings, and as discussed in class. All students will orally present their project to the class at the end of the semester.

Grading procedure

Class participation = 10%
Project description = 10%
Preliminary report = 30%
Final report = 40%
Presentation of final report = 10%
Grading scale: A (90-100%), B (80-89%), C (70-79%), D (60-69%), E (<60%)

Statement on conduct in the course

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct http://studentlife.osu.edu/csc/.

Statement on disability services

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic

barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Statement on mental health services

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614-292-5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at 614-292-5766 and 24 hour emergency help is also available through the 24/7 National Suicide Prevention Hotline at 1-800-273-TALK or at suicidepreventionlifeline.org.

Statement on sexual misconduct

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at http://titleix.osu.edu or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at titleix@osu.edu.

Statement on diversity

The Ohio State University affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding,

and mutual respect among each member of our community; and encourages each individual to strive to reach his or her own potential. Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

Earth Sciences 5501 (new course); The Panel did not vote on the proposal as they would like the following points addressed:

- The course grade is mostly based on a curation exercise and presentation (75% of the grade). It is unclear if this grade will be based on the entire exercise or just the presentation. Could this grade be broken down into smaller parts with other parts of the curation exercise included in the grading metric? Additionally, some weeks of the course (e.g. "What do museums do?") will not be reflected in this assignment.

The preparatory readings of "what do museums do" are necessary introductory content enabling students to place their work in context.

The project for the class has been broken into multiple stages to provide students with feedback at two stages (spatial and temporal context of the work; initial sample curation).

Attendance/Participation is separated from the project grade and will be assessed independently.

- Second course goal on curriculum.osu.edu is cut off.

Fixed.

- This course might include too much work outside class for 3 credit hours. 4 hours of work outside class would still be 3 credit hours, but 6 hours of work outside class is approaching 4 credit hours.

The description of the time commitment is amended to "4 hours per week" in place of "4-6 hours per week"

- On page 3 of the syllabus under assessment, the syllabus states "Reasonable allowance can be made for absences due to medical issues or other important, justified reasons." Panel recommends adding "as determined by the instructor."

Done

- The Panel also recommends limiting how many classes a student can miss, since it is a very hands-on course and would be difficult to make up.

Done, added "This is a hands-on course, and therefore missing more than 3 weeks of lab time will make it difficult for a student to satisfactorily master the necessary skills to complete the project."

- Change title to "Natural History Museum Data Curation" so as not to be confused with art.
    - This distinction could also be reflected in the course description.
    - If the plan is to broaden this course in the future and market to students in other fields, ask for a concurrence from the Department of Art.

We have changed the name to Natural History Museum Data Curation. We have amended the course description to "An introduction to modern curatorial practice in a museum, with a particular emphasis on natural history collections." While the class will address curation of art objects, the discussion will focus on those that would be part of a natural history museum (e.g. oil paintings in Orton Library showing glaciers in the 19th century.)

- Remove "Limited to 3 credit hours maximum" from course description, since this is a fixed credit hour course.

Done

- The course schedule should include readings.

Done