Course Change Request

New Course Proposal

Date Submitted: 01/24/20 8:23 pm

Viewing: **GEOL 172 : Earthquakes and Natural Disasters Laboratory**

Last edit: 02/06/20 9:51 am

Changes proposed by: stearns

Academic Career	Undergraduate, Lawrence		
Subject Code	GEOL	Course Number	172
Academic Unit	Department	Geology	
	School/College	College of Lib Arts & Sciences	
Locations	Lawrence		

Do you intend to offer any portion of this course online?

Yes

Please Explain

This laboratory will be an online class to complement an in-person lecture class, GEOL 171. Students will work through the material a week at a time, so all students will be doing the same thing every week. Additionally, to take this class they will have to be concurrently enrolled in GEOL 171, so they will see the instructor of this laboratory 2x a week, as it will be the same instructor.

Title	Earthquakes and Natural Disasters Laboratory
Transcript Title	EQs & Natural Disasters Lab
Effective Term	Fall 2020

Catalog Description

This online companion to GEOL 171 allows students a hands-on exploration of the principles and practices of geologic and geophysical research. Students will be guided through an individual term-length research project--from shaping a research question to collecting and analyzing data to drawing conclusions to presenting in front of an audience. This lab will not only allow students to explore details of natural disasters, but it will bring them into the scientific conversation.

Prerequisites	Corequisite: GEOL 171
Cross Listed Courses:	
Credits	1
Course Type	Laboratory Main (Laboratory that is a main component) (LAB)
Grading Basis	A-D(+/-)FI (G11)
Is this course part of the University Honors Program?	No
Are you proposing this course for KU Core?	No
Typically Offered	Once a Year, Usually Spring
Repeatable for credit?	No
Principal Course Designator	
Course Designator	N - Natural Sciences

Are you proposing that the course count towards the CLAS BA degree specific requirements?

Yes

Justification for counting this course towards the CLAS BA

This course provides an authentic research experience; students will be using authentic geophysical data from an online database to shape and answer their own research question. Not all geophysics occurs in the field, some like this lab, involves examini

In Workflow

1. **CLAS Undergraduat Program and Course Coordinator**
2. **CUSA Subcommitte**
3. **CUSA Commi**
4. CAC
5. CLAS Final Approval
6. Provost's Offic
7. Registrar
8. PeopleSoft

Approval Path

1. 01/31/20 2:11 Rachel Schwie (rschwien): Approved for CLAS Undergraduate Program and Course Coordinator
2. 02/05/20 2:29 Rachel Schwie (rschwien): Approved for CUSA Subcommittee

patterns of geologic data across time and space, thus the students will get real hands-on experience in doing geology. This laboratory follows the same structure of GEOL 122, which was developed with a team of librarians here at KU, to ensure that the students will als gain informational literacy, database management experience, and research skills.

How does this course meet the CLAS BA requirements?

Lab and Field Experiences (LFE)

Will this course be required for a degree, major, minor, certificate, or concentration?

No

Rationale for Course Proposal	Currently, students in Geol 171 can take Geol 103 as a lab to meet their lab requirement, but that course is not linked to the course content in Geol 171. Additionally, Geol 171 has been completely transformed to meet the KU Core requirements, and we want to provide students with an equally effective laboratory experience.
Supporting Documents	GEOL172-syllabus-disasters.docx
KU Core Documents	

Course Reviewer Comments

Leigh Stearns (stearns) (01/24/20 8:24 pm): Should be "Disasters" in the title (plural, to match GEOL 171)

Rachel Schwien (rschwien) (02/05/20 9:42 am): Dept response to CUSA subcommittee question regarding LFE proposal and how students would observe and measure data: Similar to GEOL 122, which relies on a paleobio database, GEOL 172 will guide students through data collectior graphing, analysis, and presentation of data. In particular, GEOL 172 students will predominantly use data from the following two databases: For streamflow data related to the natural hazards of floods and droughts, students will use https://waterdata.usgs.gov/nwis/rt For earthquake data, including earthquakes related to tsunamis and volcanoes, students will use https://catalog.data.gov/dataset/global-significant-earthquake-database-2150-bc-to-present

Rachel Schwien (rschwien) (02/06/20 9:52 am): Additional supporting information from dept: We plan to use the same approach to observations as in GE 122. GEOL 122 uses a paleantology online database from which students identify data to use as observations to assess scientific questions. In 172 student will use streamflow and earthquake databases, as I had listed previously, to identify data to use as observations to assess scientific questions. In addition, ir GEOL 172 students will use google Earth and LandSat images and new technology from UT Austin and the National Center for Atmospheric Research that enables smart-phone access to their data and analysis.

Key

Geol 172 Earthquakes and Natural Disasters Laboratory

Professors: Dr. Mary C Hill, Dr. George Tsoflias, Dr. Michael Taylor

Course Description

This online companion to GEOL 171 allows students a hands-on exploration of the principles and practices of natural disaster research. Students will be guided through an individual term-length research project--from shaping a research question to collecting and analyzing data to drawing conclusions to presenting in front of an audience. This lab will allow students to explore natural disasters and participate in the scientific conversation.

Course Goals

In this laboratory, you will have the opportunity to practice and develop a number of skill sets and abilities. While these skills will be important within the constraints of this classroom, many of them will also serve you well beyond this course and semester, in your time at KU and beyond, in your future career and life as an informed citizen. These skills are framed as the course goals or learning outcomes for the laboratory. By the end of the semester you will be able to:

- explore the utility and limitations of the natural disaster record in order to understand the consequences of past disasters and anticipate consequences to comet.
- independently make observations and apply the scientific method to pose and test research questions and craft arguments.
- select and apply appropriate interpretive tools to answer a research question.
- analyze and evaluate assumptions, claims, evidence, arguments, and forms of expression.
- demonstrate proficiency in evidence-based reasoning to apply critical analysis and produce a research conclusion.
- articulate the research process, including critical analysis and research conclusions in order to develop smart-phone communication of their observations and analysis and an online talk.

Course Structure

Every week everyone in the class will complete a new lesson composed of "practice" and "assignment" activities: the practice activities provide guided learning, while the assignment activities provide you the chance to apply your new knowledge to your own research question.

All assignments for a week need to be completed by Sunday at midnight. You have ample flexibility within each week to organize your progress as necessary, but the Sunday midnight deadlines will be strictly enforced. Material submitted up to 24 hours past the Sunday deadline will be granted half-credit. Material submitted past Monday at midnight will not be accepted. Plan accordingly.

Each week the different things you will have to complete will be indicated like so: *LetterNumber.Number*. The letter represents the type of assignment it is (practice, survey, lab report component or assignment), the first number indicates the week, and the second number

indicates which one this is. For instance, the third practice item in week 4 would be indicated: P4.1.

Additional Contact

For logistical questions about assignments and common course concepts, please use the designated discussion board for each week. This board will allow other students to benefit from any additional clarification provided and contribute related questions and comments as well.

For personal conversations, email us directly at geol171@ku.edu. Start the Subject line with 171LAB. It may take up to 24 hours to answer any inquiry unless we have previously arranged a consultation. I will not host fixed office hours each week but will be happy to converse over Skype/Zoom/text by appointment.

Grading

Class will be out of 1000 points as followed:

Assignment Type	Indicated by	Total Points	Frequency
Practice	P	300	weekly
Assignments and Research Notebook Pieces	A/R	500	weekly
Surveys	S	50	periodically
Smart-phone display and online talk of observations and analysis		150	last class

Final grades will be calculated as follows:

Grade	Point Range
A	>930
A-	900-929
B+	870-899
B	830-869
B-	800-829
C+	770-799
C	730-769
C-	700-729
D	600-699
F	<600