Spring 2025 | GEOL 0093 | Geology and Cinema

Professor: Ryan Kerrigan
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Office Phone: (814) 269-2942
Class time: Monday, Wednesday, & Friday, 11:00-11:50
Class Room: 220 Krebs Hall

Welcome to Geology and Cinema!

How does Hollywood get science so bad? It's probably because actual science can be less dramatic and more tedious. This course explores Hollywood's depiction of science, especially natural disasters, and the liberties they take. Lecture will introduce topics and explain the foundations of the scientific principles that help us understand how our Earth works. Each major topic will include viewing various natural disaster movies followed by a post-movie discussion of the accuracies and inaccuracies depicted in the movie. This course provides a fun way to learn more about science by breaking down the inaccurate, glamorized science depicted in movies.

Goals and Outcomes
By the end of this course, students will have:

- An understanding of basic geologic principles.
- An understanding of natural hazards and the realistic related dangers.
- An ability to critically analyze representations of geologic phenomena.
- An understanding of policy issues related to the funding of natural hazards mitigation.

COURSE RESOURCES AND RULES

Text (required): Natural Disasters (12th Edition), 2022, Abbott, P. L., McGraw-Hill Publishing, p. 578, ISBN-10: 1265125554, ISBN-13: 978-1265125554. You can find this online for as low as $60 used or new on Amazon. You will complete assignments using it and I will refer to its contents in lecture frequently.

Web-material: All class materials (schedule, power points, study guides, etc.) will be posted on Canvas for your convenience.

Clean-up: Please don't make a mess, but if you choose to make a mess, please clean up after yourself.

Safety: Use your brain, do not do anything that would endanger yourself or your classmates.

Student Accommodations: If you will be requesting accommodations, you are encouraged to contact both the instructor and the Office of Health and Wellness (G-10 Student Union Building, 814-269-7119) to schedule an appointment as early as possible in the term. The Office of Health and Wellness will review your case and determine reasonable accommodations for this course.

Academic Integrity: Although there will be opportunities for group work in this course, all students are responsible for understanding the material and should indicate with whom they collaborated on any assignment. Group work does not mean that one person does all the work and everyone else puts their name on it…this is considered cheating. Students **should not:** claim other's ideas as their own, turn in other's work as their own, copy sources without proper citation (plagiarism), allow others to take their work or ideas, or pass off past projects as original work. If you have questions about academic honesty, see the instructor or refer to the document "Academic Integrity at the University of Pittsburgh at Johnstown." (http://www.upj.pitt.edu/en/academics/academic-affairs/academic-advising/academic-integrity/). Anyone found to be in violation of the Pitt-Johnstown standards for academic integrity will fail the course. We will cover scientific ethics in this course, until then use your brain.

Diversity and Inclusion: Our classroom will be one of acceptance and inclusion. Any form of discrimination, bullying, etc. will not be tolerated. Please review the university's statement of Equity and Inclusion, if you are unfamiliar: https://www.johnstown.pitt.edu/about/office-president/equity-and-inclusion

Late Work: Any work not received by the due date and time will have points deducted, except when pre-excused by the instructor (which will require documentation). Up to 10% of the total possible points will be deducted each day late (this includes weekends and holidays). No work will be accepted after the last day of classes.

Outside Resources: Perhaps there are questions that I cannot answer, or issues you feel you cannot discuss with me, UPJ has outlets these issues. Kara Bernard, the Natural Sciences administrative assistant, is a wealth of knowledge about random stuff. If you have a problem me or a problem you don't feel comfortable talking to me about please see: Steve Stern, the Natural Science Division Chair; he is my boss.

EVALUATION

1. Quizzes:
There will be six quizzes during the semester during regular class meetings. The questions will vary, most will be multiple choice, fill-in-the-blank, matching, etc.. The in-class quizzes will cover only material introduced after the prior quiz.

2. Final Exam:
The final exam is cumulative and will cover all the science and movies discussed throughout the semester. The final exam will be a similar format to the previous quizzes, but longer.

3. Movie Watching Homeworks:
The quizzes will cover material from the lectures but also will focus on one movie that includes themes of that section's topics. Movie review sheets will be provided to help you guide your viewing towards specific scientific inaccuracies presented in that movie. Expect to answer questions on that section's quiz on that movie with specifics about the bad science of that movie. Further guidance will be provided as assignments approach.

4. Movie Critique:
Students are responsible to submit a final project in an oral presentation in the last week of the semester. As an expert in Geology, you have been asked by a famous Hollywood producer to re-make a Hollywood disaster movie. This project involves a thorough critique of the original movie and a description of how you would improve the movie using the scientific knowledge you've gained in class. You can pick any

movie that involves natural disasters. I will provide a list of suggested titles, but just about anything is fair game, except for those watched in class. There will be a series of assignments throughout the semester to ensure progress is continual: more information will be given at a later date as to the exact nature of each assignment.

ASSESSMENT

- 60% Quizzes
- 20% Final Exam
- 20% Movie Critique
- Standard grade cut-off apply (100-96.6 =A+, 96.6-93.3=A, 93.3-90=A-, etc)

TENTATIVE CLASS SCHEDULE

Course Schedule			
Week	**Monday**	**Wednesday**	**Friday**
1	**January 6, 2025** **No Class**	**January 8, 2025** *Introduction and Science* Ch. 1	**January 10, 2025** *Science, Solar System, & the crust* Ch. 2 (pgs. 23-46)
2	**January 13, 2025** *Earth's Structure* Ch. 2 (pgs. 23-46)	**January 15, 2025** *Earth's Magnetic Field* Ch. 2 (pgs. 23-46)	**January 17, 2025** *Plate Tectonics* Ch. 2 (pgs. 23-46)
3	**January 20, 2025** **No Class** **MLK Day**	**January 22, 2025** *Plate tectonic settings & hot spots* Ch. 2 (pgs. 23-46)	**January 24, 2025** ***Quiz #1***
4	**January 27, 2025** *Minerals & Rock types*	**January 29, 2025** *the Rock Cycle*	**January 31, 2025** *Igneous Rocks* *Creation of Magma & Lava* Ch. 7 (173-186)
5	**February 3, 2025** *Magma Chemistry & the 3 V's of volcanism* Ch. 6 (156-172)	**February 5, 2025** *Types of volcanoes & eruptions* Ch. 6 (156-172)	**February 7, 2025** *Volcanic Hazards* Ch. 7 (186-196)
6	**February 10, 2025** *Volcanic Case Studies* Ch. 7 (196-201)	**February 12, 2025** **Quiz #2** **Movie: Dante's Peak**	**February 14, 2025** *Faulting of Rocks* Ch. 3 (47-60)
7	**February 17, 2025** *Seismology* Ch. 3 (60-75)	**February 19, 2025** *Earthquakes & Plate Tectonics* Ch. 4 (77-107)	**February 21, 2025** *Tsunamis* Ch. 8 (202-227)
8	**February 24, 2025** *Earthquake Case Studies* Ch. 5 (108-145)	**February 26, 2025** **Quiz #3** **Movie: San Andreas**	**February 28, 2025** **No Class**

Course Schedule			
Week	**Tuesday**		**Thursday**
9	**March 3, 2025** **No Class** **Spring Break**	**March 5, 2025** **No Class** **Spring Break**	**March 7, 2025** **No Class** **Spring Break**
10	**March 10, 2025** *Geologic Time* Ch. 18 (486 -493)	**March 12, 2025** *Planetary Geology &* *Meteor Strikes* Ch. 17 (460-483)	**March 14, 2025** *Mass Extinctions* Ch. 18 (494-502)
11	**March 17, 2025** *Paleontology*	**March 19, 2025** *Life on Earth*	**March 21, 2025** Age of the Reptiles
12	**March 24, 2025** *Dinosaurs*	**March 26, 2025** **Quiz #5** **Movie: Jurassic Park**	**March 28, 2025** **No Class** **Northeast GSA**
13	**March 31, 2025** *Weather vs Climate* Ch. 9 (228-247)	**April 2, 2025** *Tornados* Ch. 10 (248- ?)	**April 4, 2025** *Hurricanes* Ch. 11 (? - 313)
14	**April 7, 2025** *Floods* Ch. 13 (351-381)	**April 9, 2025** *Climate Change* Ch. 12 (314-323)	**April 11, 2025** *Global Cycles* Ch. 12 (323-349)
15	**April 14, 2025** ***Quiz #6*** **Movie: The Day After Tomorr.**	**April 16, 2025** **Student Presentations**	**April 18, 2025** **Student Presentations**
16	**April 21, 2025** **Final Exam Review**	**April 23, 2025** **No Class** ***Reading Day***	**April 25, 2025** **No Class**
17	**FINAL EXAM** **Monday, April 28th, 2025** **10:30-12:30**		