

Spring 2021 | GEOL 0093 | Geology and Cinema

Professor: Ryan Kerrigan

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Class time: Monday, Wednesday, & Friday, 11:00-11:50

Office Hours: Tuesdays 1-3 or by appointment

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Class Room: 120 Murtha Center

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 (11th Edition), 2019, Abbott, P. L., McGraw-Hill Publishing, p. 576, ISBN-10 : 1260566048, ISBN-13 : 978-1260566048. 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 five quizzes during the semester during regular class meetings. The questions will vary, most will be multiple choice, fill-in-the-blank, matching, etc.. All five in-class quizzes will be online and will cover only material introduced after the prior quiz.

2. Final Exam:

The final exam will be an online exam consisting of mostly multiple choice questions. The final exam is cumulative and will cover all the science and movies discussed throughout the semester.

3. Movie Write-ups:

After each movie viewing students are expected to submit a written critique of the science presented in the film. Students are expected to take notes during the film, noting the scientific principles presented in the film. In the Movie Write-Up students are expected to break down some of the flaws and the accuracy of the science within the context of the science discussed in lecture. Further guidance will be provided as assignments approach.

4. Movie Critique:

Students are responsible to submit a final project in written and oral form 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

- 40% Quizzes
- 20% Final Exam
- 20% Movie Write-Ups
- 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	<u>January 18th</u> <i>No Class</i>	<u>January 20th</u> <i>Introduction and Science</i> Ch. 1	<u>January 22nd</u> <i>Earth's Structure & Plate Tectonics</i> Ch. 2 (pgs. 23-46)
2	<u>January 25th</u> <i>The Core</i> (the first 50 minutes)	<u>January 27th</u> <i>The Core</i> (the second 50 minutes)	<u>January 29th</u> <i>The Core</i> (the last 35 minutes)
3	<u>February 1st</u> <i>Plate Tectonics</i> Ch. 2 (pgs. 23-46) WU: The Core DUE	<u>February 3rd</u> <i>Elements & Minerals</i>	<u>February 5th</u> <i>the Rock Cycle</i> Quiz #1
4	<u>February 8th</u> <i>Igneous Rocks</i> Ch. 6 (142-147)	<u>February 10th</u> <i>Creation of Magma & Lava</i> Ch. 6 (146-156)	<u>February 12th</u> <i>Volcanoes</i> Ch. 6 (156-172)
5	<u>February 15th</u> <i>Volcanic Harzards</i> Ch. 7 (173-186)	<u>February 17th</u> <i>Volcanic Case Studies</i> Ch. 7 (186-196)	<u>February 19th</u> <i>Volcanic Case Studies</i> Ch. 7 (196-201)
6	<u>February 22nd</u> <i>Dante's Peak</i> (the first 50 minutes)	<u>February 24th</u> <i>Dante's Peak</i> (the second 50 minutes)	<u>February 26th</u> <i>Dante's Peak</i> (the last 10 mintues) Quiz #2
7	<u>March 1st</u> <i>Faulting of Rocks</i> Ch. 3 (47-60) WU: Dante's Peak DUE	<u>March 3rd</u> <i>Seismology</i> Ch. 3 (60-75)	<u>March 5th</u> <i>Earthquakes & Plate Tectonics</i> Ch. 4 (77-107)
8	<u>March 8th</u> <i>Tsunamis</i> Ch. 8 (202-227)	<u>March 10th</u> <i>Earthquake Case Studies</i>	<u>March 12th</u> <i>Earthquake Case Studies</i> Quiz #3

Course Schedule

Week	Tuesday	Wednesday	Thursday
9	<u>March 15th</u> <i>Geologic Time</i> Ch. 18 (486 -493)	<u>March 17th</u> <i>Dinosaurs</i> (class notes)	<u>March 19th</u> <i>Mass Extinctions</i> Ch. 18 (494-502)
10	<u>March 22nd</u> <i>Meteor Strikes</i> Ch. 17 (460-483)	<u>March 24th</u> NO CLASS SELF HELP DAY	<u>March 26th</u> <i>Jurassic Park</i> (First 50 minutes)
11	<u>March 29th</u> <i>Jurassic Park</i> (Second 50 minutes)	<u>March 31st</u> <i>Jurassic Park</i> (Last 27 minutes) Quiz #4	<u>April 2nd</u> <i>Climate as a system</i> Ch. 9 (228-247) WU: Jurassic Park DUE
12	<u>April 5th</u> <i>Climate Change</i> Ch. 12 (314-323)	<u>April 7th</u> <i>Global Cycles</i> Ch. 12 (323-349)	<u>April 9th</u> <i>Floods</i> Ch. 13 (351-381)
13	<u>April 12th</u> <i>The Day After Tomorrow</i> (the first 50 minutes)	<u>April 14th</u> <i>The Day After Tomorrow</i> (the second 50 minutes)	<u>April 16th</u> <i>The Day After Tomorrow</i> (the last 24 minutes) Quiz #5
14	<u>April 19th</u> Student Presentations WU: The Day After Tom. DUE	<u>April 21st</u> Student Presentations	<u>April 23rd</u> Student Presentations
15	FINAL EXAM Date to be determined		