

# UTEP Fall 2023 · Earth Sciences Through Film

## SCI 1301 (CRN: 12340)

Lecture room: Quinn Hall 206

Time: Tuesday and Thursday, 12:00-1:20PM

Instructor: Antonio Arribas (Dept. of Earth, Environmental and Resource Sciences)

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### Course Goals and Objectives

This course aims to achieve two objectives:

- i. Introduce students to the fascinating world of geology: earthquakes, volcanoes, plate tectonics, resources for society, etc.
- ii. Enhance this knowledge by viewing exemplary films that feature, directly or indirectly, subjects related to geology and the earth sciences.

Students will learn about the impact of Earth processes on our everyday life. You will leave this course with a basic understanding of the concepts and vocabulary of the geosciences and be exposed to how scientists approach a scientific problem (observe, question, and analyze), distinguish facts from interpretations, and assess sources of information. Ultimately, the goal is for the students to become better informed citizens.

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### Learning Outcomes

Among other outcomes, at the end of the course students will:

- Understand the interrelationship between Earth processes and human development, including the location of the resources (minerals, energy, water) that enable society.
  - Understand plate tectonics and the concept of a dynamic planet.
  - Recognize various tectonic settings on Earth and predict the nature of seismic and volcanic activity at the different tectonic settings.
  - Understand the rock cycle, the water cycle, and the life cycle (evolution).
  - Understand the difference between weather and climate, the basic controls on climate and climate change, and the science behind human-induced global warming.
  - Appreciate the immense variety of temporal and spatial scales involved.
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### Course Format

This course will combine movie screenings with lectures on geology. Given the length of some of the movies, the students will be required to complete part of the movie screenings outside the two scheduled weekly lectures. Partial movie screenings will be conducted in class, with students completing the viewings independently. All films will be made available to students on-line through Swank, Kanopy, and/or other digital platforms, with viewing links provided in Blackboard.

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## Textbook

No text is required. Supplemental material will be made available.

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## Grading

Subject to change, grading is based on in-class assignments and exams. Class total = 100 pts.

**Five best assignments (out of 7 total) = 50 pts. (10 pts each). Two exams = 50 pts (25 pts each).**

Letter grade: A = 90-100, B=80 – 89.9, C = 70-79.9, D = 60-69.9, F = less than 60

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## CASS / Student Concerns

If you have a disability or if you are experiencing learning disabilities and need classroom accommodations, please contact the Center for Accommodations and Support Services (CASS) at 747-5148, or by email to [cass@utep.edu](mailto:cass@utep.edu), or visit their office located in UTEP Union East, Rm 106. For additional information, please visit [www.sa.utep.edu/cass](http://www.sa.utep.edu/cass).

If you are struggling with this class or experiencing difficulties at the university, please reach out to your instructor or teaching assistant. If they are unable to help you, then please contact the Dean of Students Office at [DOS@utep.edu](mailto:DOS@utep.edu) or phone (915) 747-5648.

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## Schedule of eoscience Topics and Associated Movie Screening (subject to change)

### Mineral Resources and Society

– *2001 Space Odyssey (1968)*

### Plate Tectonics and Deformation

– *The Man Who Would Be King (1975)*

### Minerals and Rocks

– *Uncut Gems (2019)*

### Magma and Volcanoes

– *The Fire Within: A Requiem for Katia & Maurice Krafft (2022)*

### Earthquakes and Hazards

– *The Impossible (2012)*

### Geologic Time

– *Jurassic Park (1993)*

### Climate, Geology, and Climate Change

– *Mad Max: Fury Road (2015)*

### Water Resources

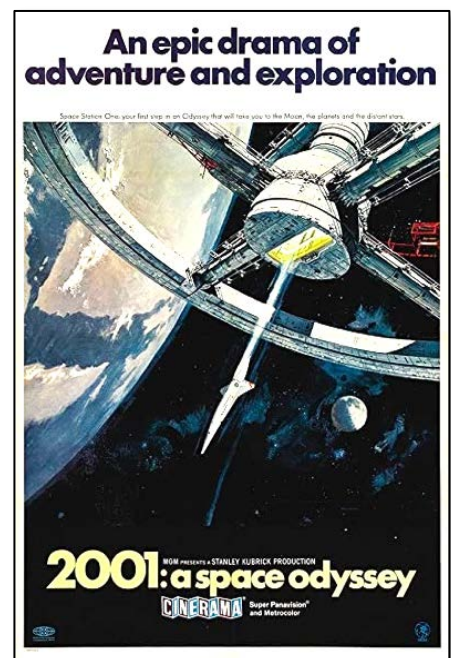
– *Chinatown (1974)*

### Energy Resources

– *There Will Be Blood (2007)*

### Mineral Resources and Critical Minerals

– *The Treasure of Sierra Madre (1948)*





## Calendar (subject to change)

Wk	Date	Geology Topic	Movie Screening (to complete viewing independently ahead of next week's classes)	In class assignments (concept sketch)
1	Aug. 29, 31	Introduction	<i>2001 Space Odyssey (1968)</i>	
2	Sep. 5, 7	Minerals & Society	<i>The Man Who Would be King (1975)</i>	<b>Concept sketch 1: Geography</b>
3	Sep. 12, 14	Plate Tectonics	Plate Tectonics	<b>Concept sketch 2: Plate tectonics</b>
4	Sep. 19, 21	Deformation	<i>Uncut Gems (2019)</i>	
5	Sep. 26, 28	Minerals and Rocks	<i>The Fire Within (2022)</i>	<b>Concept sketch 3: Deformation</b>
6	Oct. 3, 5	Magmas and Volcanoes	<i>The Impossible (2012)</i>	<b>Concept sketch 4: Volcanoes</b>
7	Oct. 10, 12	Earthquakes and Hazards	<i>Jurassic Park (1993)</i>	
8	Oct. 17, 19	Geologic Time	<b>Exam 1</b>	
9	Oct. 24, 26	Climate and Geology <i>Mad Max: Fury Road (2015)</i>	Climate and Geology	
10	Oct. 31, Nov. 2	Climate Change	Climate Change	<b>Concept sketch 5: Earth's seasons?</b>
11	Nov. 7, 9	Climate Change	<i>There Will Be Blood (2007)</i>	<b>Concept sketch 6: Greenhouse Effect</b>
12	Nov. 14, 16	Energy Resources	<i>Chinatown (1974)</i>	
13	Nov. 21, 23-Thanksgiving	Water Resources	<i>The Treasure of Sierra Madre (1948)</i>	<b>Concept sketch 7:</b>
14	Nov. 28, 30	Mineral Resources	Mineral Resources: Critical Minerals, here and now	
15	Dec. 5, 7	Review	<b>Exam 2</b>	