Students are required to attend classes and movie viewing on Tuesdays from 19:00.

Course goals:

Students will become familiar with some of the natural hazard that faces our society today and gain insight into how math and science (mostly physics) can be used to test whether something is likely to happen or not.

Course format:

Students must:

- Be comfortable with high-school level math and science
- Attend class
- Actively participate in class discussion
- Complete weekly assignments and work closely with fellow students
- Attend group viewing of each film on Tuesday evening

Role Playing Games

This course includes two Role Playing Games to understand the complexity of addressing natural hazard. For the second weekâ€™s class, the students will play the Montserrat Role Playing Game. This game takes place on the island of Montserrat where a volcanic eruption may or may not occur. About halfway through the class, the students will play the Vorti City Role Playing Game where the goal is to propose ways to protect the city of Vorti.

Students are expected to be active participants in their assigned roles, and those who are late for the class will not be allowed to participate. Therefore, students with schedules that will not allow on-time start of the class should not apply for the course.

Typical enrollees:

First-year students who are curious about nature and excited about being able to test whether something is fact or fiction through simple calculations.

When is course typically offered?

fall semester

Assignments and grading:

Weekly Assignments

These assignments consist of readings relevant for the natural phenomena depicted in the movie for the week, identification of some scenes from the movie, and some calculations associated with topics covered in class.

Final Project

The final project is to create a proposal for a blockbuster GeoSciFi movie plot based upon concepts learned in class. This will be completed in a group of 2 to 5 students. Each proposal will include at least one violation of the laws of physics, a proposed movie poster, and one quantitative assessment of the reality of a component in the plot. Each group will present the plot to the class, and will write up an outline of the plot as a final written report.

Enrollment cap, selection process, notification:

12 students

Past syllabus:

Week*	Movie	Topic
Week 1	Introduction	Preparation for the Montserrat RPG
Week 2	**Montserrat Role Playing Game**	
Week 3	*Dante's Peak (1997)*	Volcano Monitoring
Week 4	*Twister* (1996)	Tornadoes
Week 5	*San Andreas* (2015)	Earthquakes
Week 6	*The Core* (2003)	Geomagnetic Storms
Week 7	*The Day After Tomorrow* (2004)	Climate Change
Week 8	**Vorti City Role Playing Game**	
Week 9	*Armageddon (1998)*	Asteroid Impacts
Week 10	*Volcano* (1997)	Volcanic Eruption
Week 11	*Deep Impact* (1998)	Tsunamis
Week 12	*2012* (2009)	Too much to choose from here...

Absence and late work policies:

Students are expected to attend the class in person and actively participate in the discussion and group exercises.

Students should contact the instructor if they cannot submit the assignment on time. Without prior agreement, each day the assignment is late will result in 50% penalty from the total grade the student would have gotten. For example, if an assignment is out of 10 and the student would have gotten 8 if submitted on time. If that assignment is submitted 2 days after due date, the grade will be 2/10 (first day 8-50% of 8 = 4, second day 4-50% of 4 = 2, etc.).

Generative Artificial Intelligence (GAI) Policy

This course allows students to explore the use of GAI tools such as ChatGPT for most assignments and assessments -- any cases in which it is disallowed will be explicitly noted at the top of each assignment when given.

Any use of these tools must be appropriately acknowledged and cited with a GAI use statement. This statement shall be included in brackets at the end of each assignment or part of assignment in which these tools are used. The statement shall clearly note the degree to which GAI was used. Examples of such statements include but are not limited to:
- "[GAI was used to better understand the problem]"

- "[GAI was used to find sources of information for research]"
- "[GAI was used to outline the text of this answer]"
- "[GAI was used to improve the clarity and grammar of this answer]"
- "[GAI was used to generate the text of this answer]"

If no statement is provided, it will be assumed that GAI was not used in any way.

When using GAI, it is the responsibility of the student to assess the validity and applicability of any output which is utilized. Students shall not be penalized for the degree to which GAI is used in cases where it is allowed; however, students shall bear the final responsibility for the quality and accuracy of any and all submitted work.