

Geomythology of Ancient Catastrophes - Syllabus

Myths from many cultures contain descriptions of phenomena or events that bear a striking resemblance to natural disasters including (but not limited to) floods, earthquakes, tsunamis, meteorite impacts, and volcanic eruptions. In this course we will explore the possibility that some of these mythological accounts may be based on actual events that occurred in the distant past. Many of the myths we will examine come from ancient civilizations of the Mediterranean and Middle East – the Mesopotamians, the Greeks, and the Israelites – but we will also analyze material from other cultures in Europe and the Americas. Specific objectives of the course are:

- (1) to familiarize you with the settings and causes of catastrophic geologic events, their associated phenomena, and the types of evidence these events leave behind
- (2) to acquaint you with the methods used to study these kinds of events so that you are able to formulate hypotheses about past events, devise means of testing your hypotheses, and also recognize when an idea is not testable
- (3) to practice critically reading and analyzing myths from different cultures with the goals of appreciating their societal significance and assessing the extent to which they may record actual events
- (4) to instill in each of you an awareness and appreciation of your natural surroundings and of the different ways in which one can look at and interpret the landscape

Professor: Dr. Jeffrey Tepper

Office: 117B Thompson Hall

Phone: 879-xxxx (office/voice mail) or 879-3814 (departmental office)
xxx-xxxx (home; please don't call after 10 PM)

E-mail: jtepper@pugetsound.edu

WWW: <http://www2.ups.edu/faculty/jtepper/>

Office Hours: Monday 4-5, Tuesday 10-11, Wednesday 10-11, Friday 10-11
and other times by drop-in or by appointment

Course Texts: There are two required texts for this course: (1) the SCI1 125 “course pack” of photocopied readings assembled from various sources, (2) “A Writer’s Reference” by Hacker and Sommers. You will also need access to a copy of the Bible (any version – including online - is fine as long as it is not abridged or a child’s version).

Assignments and Grading: Course grades will be based on the following components:

Quizzes / Homework	20%
Position Papers	30%
Discussions / Participation	15%
Research Proposal & Presentation	35%

Final course grades, rounded to the nearest whole number, are calculated as follows: >95% = A; 90-94% = A-; 87-89% = B+; 83-86% = B; 80-82% = B-; 77-79% = C+; 73-76% = C; 70-72% = C-; 67-69% = D+; 63-66% = D; 60-62% = D-; <60% = F.

Quizzes (~10 minutes long) will be based on assigned readings and / or lectures and are intended to ensure that everyone stays up-to-date with those assignments. I will drop your lowest quiz score.

Position papers (roughly 2-3 pages, double-spaced, typed) will require you to synthesize knowledge after each of the discussion sessions. In essence, I am asking you to reflect on some aspect of the discussion topic and summarize evidence that supports your view. More detailed instructions and guidelines will be provided prior to each discussion.

The research proposal is the culminating assignment for the course. The intent of this project is for you to develop a hypothesis about a myth that you think has a geologic connection and then describe what methods you would use to test your hypothesis. You will have great latitude when it comes to selecting a topic: basically any myth we don't cover in class and that has not already been chosen by a classmate is fair game. The final products will be a written paper (5-7 pages) and a brief (~12 minute) talk on your research. These talks will model the format of a presentation at a professional conference. More specifics about this assignment are covered in a separate handout but the deadline for selecting a topic (and having it approved by me) is Wednesday, **October 5th**.

Writing Liaison: Cody Chun is our writing liaison and is available to assist you with technical and stylistic aspects of writing. His hours in Howarth 109 are: Sun 3-5 pm, M 9-11 am, and Th 7-9 pm. You can make an appointment with him by sending an email to cwltappointments@pugetsound.edu or by calling (253) 879-3404.

Field Trip(s): We are in luck! Washington is a wonderland of geologically-recent catastrophic events and many of phenomena we discuss have left their marks on our state. To examine the evidence of one such event – the Missoula Floods – we will take a weekend field trip to the Columbia Plateau on **September 24-25**. We will talk more about trip details as the date gets closer, but please reserve this weekend now.

E-mail/WWW: I will use e-mail to communicate with you (it is your responsibility to check your account regularly) and also post course-related materials on Moodle. All of you are already enrolled for this class in Moodle; here is the login link:

<https://moodle.pugetsound.edu/moodle/>

In addition Eli Gandour-Rood, the science liaison at Collins Library, has created a Geomythology course page with research tips:

http://research.pugetsound.edu/SSI1_125

Attendance: Regular, on-time attendance is essential for your individual success as well as the success of the class as a whole. I will keep track of attendance. Missing a discussion session without giving me prior notice will result in an automatic grade of zero for that week's position paper. A student absent for more than five class meetings will, at a minimum, have his/her grade lowered one full letter grade.

Honesty: The work you turn in must be your own. I heartily encourage you to discuss course material with your classmates and to study and work together on assignments, but when you take a quiz or turn in a paper that work must reflect your own efforts. Any course work that shows evidence of academic dishonesty will receive a grade of zero and may be turned over to the Registrar's Office. If

you are unclear as to what constitutes plagiarism it is a good idea to read the section on academic honesty in your student handbook, also online at

<http://www.pugetsound.edu/student-life/personal-safety/student-handbook/academic-handbook/academic-integrity/>

Special Needs: If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Peggy Perno, Director of the Office of Accessibility and Accommodations, 105 Howarth, 253.879.3395. She will work with you to determine what accommodations are necessary and appropriate. All information and documentation is confidential.

Emergencies: Please review university emergency preparedness and response procedures posted at: www.pugetsound.edu/emergency/. There is also a link on the university home page. Familiarize yourself with hall exit doors and the designated gathering area for this class.

If a building evacuation becomes necessary (e.g. earthquake) meet your instructor at the designated gathering area so she/he can account for your presence. Then wait for further instructions. Do not return to the building or classroom until advised by a university emergency response representative.

If confronted by an act of violence, be prepared to make quick decisions to protect your safety. Flee the area by running away from the source of danger if you can safely do so. If this is not possible, shelter in place by securing classroom or lab doors and windows, closing blinds, and turning off room lights. Stay low, away from doors and windows, and as close to the interior hallway walls as possible. Wait for further instructions.

Tips for Success: Building knowledge is a lot like building strength --- it requires time and repetition. You cannot “get strong” by working out all night before a game, nor can you “get smart” by studying all night before a quiz. Here are some tips for doing well in this or any other course:

- Take good notes during lecture; don't just write what is on the board.
- Recopy your notes each night; this takes time but it allows you to “process” the material and to identify anything that is unclear.
- Be engaged during class ... this means no playing with your phone.
- Ask questions. And listen when your classmates ask questions.
- Read the texts carefully ... and write in them! Highlight. Paraphrase.
- Study with a friend. The friend needn't even be in this course; if you can explain the material to someone who hasn't taken the course that is a good indication that you understand it well.
- Talk about the material. It is easy to read something and not fully understand it, but it's hard to have a conversation about material you don't understand. Talking about a topic is a good way to assess how well you have mastered it.

Geomythology – Schedule of Lecture Topics & Readings

Week 1 (8/29 – 9/2)

- Introduction, Course Logistics, What is a Myth?
- The Role of Myth in the Ancient World
- The Antiquity and Reliability of Myths

Readings (please read before the associated lecture)

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 Heinberg, *The Mysteries of Myth*; Armstrong, *The Paleolithic Period*
 Barber, *The Memory Crunch*; Campbell, *Aboriginal Traditions*

Week 2 (9/5 – 9/9)

- Labor Day – NO CLASS
- Dating of Geological & Historical Events
- Dating of Geological & Historical Events / **QUIZ #1**

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Week 3 (9/12 – 9/16)

- The Nature of Floods – Causes and Styles
- The Nature of Floods – Causes and Styles (cont.)
- Library Session – Evaluating Different Types of Information Sources

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Week 4 (9/19 – 9/23)

- **Discussion #1:** Moses' Parting of the Red Sea
- Paleoflood Analysis / Evidence of Floods in the Middle East
- Field Trip Preview – the Missoula Floods

Onion, *Scientists Explain*; Nof & Paldor, *Oceanographic Explanations*
 Woolley, *Beginnings of Ur*; Wilford, *Geologists Link*; Leary, *Artifacts*
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Week 5 (9/26 – 9/30)

- The Flood Myth in Gilgamesh vs. the Bible / **QUIZ #2**
- Overview of Plate Tectonics
- **Discussion #2:** The Great Flood(s)

The Epic of Gilgamesh; Genesis 6:10 – 8:20
 Montgomery, Chapter 3 (*Plate Tectonics*)
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Week 6 (10/3 – 10/7)

- Geology and Tectonics of the Mediterranean
- The Nature of Earthquakes I: Basic Concepts
- The Nature of Earthquakes II: Phenomena and Evidence

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 Abbott, Chapter 3 (*Basic Principles of EQ Geology*)
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Week 7 (10/10 – 10/14)

- Paleoseismology / Earthquakes in the Middle East / **QUIZ #3**
- **Discussion #3:** Destruction of Sodom & Gomorrah
- Library Session: Using Data Bases and Other Library Resources

Harris, *Sodom and Gomorrah: A Geotechnical Perspective*
Block, *Island of Taman*; Nissenbaum, *Climatic Perspective*

Week 8 (10/17 – 10/21)

- Fall Break – NO CLASS
- The Nature of Volcanism – Volcano Types, Processes, & Products
- The Nature of Volcanism – continued

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Press et al., Chapter 6 (*Volcanism*)
Press et al., Chapter 6 (*Volcanism*)

Week 9 (10/24 – 10/28)

- Hesiod's Theogony and the Pantheon of Greek Gods / **QUIZ #4**
- **Discussion #4:** The Clash of the Titans
- Background to Atlantis: Plato and His World

Theogony (selections)
Hesiod, *Theogony* (selections)
Ellis, *What Plato Said*

Week 10 (10/31 – 11/4)

- Supervolcanoes and Disappearing Islands
- Background to Atlantis: the Minoans
- **Discussion #5:** The Legend of Atlantis

Sparks, *The Big Blast at Santorini*
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Plato, *Timaeus & Critias* (selections); Lear, *Volcano Shaped World*

Week 11 (11/7 – 11/11)

- Introduction to Comets & Asteroids
- Evidence of Past Comet & Asteroid Encounters
- King Arthur, Celtic Myths, and the Comet(?) of 540 AD / **QUIZ #5**

Sagan & Druyan, *The Anatomy of Comets, A Cometary Bestiary*
Masse, *Archaeology & Anthropology of ..*; Gusiakov, *Mega Tsunami*
McCafferty & Baillie, *King Arthur*

Week 12 (11/14 – 11/18)

- **Discussion #6:** Meteorites & Other Catastrophes in New World Myth --
- Student Presentations --
- Student Presentations --

Week 13 (11/21 – 11/25)

- Student Presentations --
- Thanksgiving Break – NO CLASS --
- Thanksgiving Break – NO CLASS --

Week 14 (11/28 – 12/2)

- Student Presentations --
- Student Presentations --
- Student Presentations --

Week 15 (12/5 – 12/7)

- The Great Flood Revisited: Was it Caused by a Comet Impact? Masse, *Archaeology & Anthropology of ...*, p. 46-63
- Tsunamis & Tsunami Legends of the Pacific Northwest --