

Arts and Sciences 138

The Worst Day Ever

1-credit Arts and Sciences Freshman Seminar

Autumn 2006

Thursdays 10:30-11:18

Mendenhall Laboratory 2xx

Instructor

Dr. Anne E. Carey

325 Mendenhall Laboratory

292-2375 or carey.145@osu.edu

Course Description

This freshman seminar introduces students to various aspects of Earth processes and the geologic environment of Earth by examining what happened on that day 65 million years ago when a comet or asteroid slammed into Earth and caused the extinction of the dinosaurs.

Textbook

Alvarez, Walter, 1997, *T. rex and the Crater of Doom*. Princeton University Press, 185 pp. ISBN 0-691-01630-5. **Required.**

Course Objectives

1. To introduce students to the basics of geological science by investigating how a great geologic mystery was solved by collaboration among geologists, physicists and chemists.
2. Provide students with an opportunity to discuss in a small group setting an area of geological research with a faculty member in Geological Sciences.

Course Organization

There is one 48-minute seminar meeting weekly. Students are **required** to attend class. There will be brief readings assigned for each class meeting; students must read assignments *before* class. Each student will be assigned to lead a class discussion during weeks 2–8 when the text is discussed. Each student will give a 10 minute presentation during week 9 or 10 on a topic drawn from class readings and assigned by the professor.

Grading

S/U. Students are required to attend class weekly. Grades will be based upon attendance (20%), participation in weekly class discussions (50%) and final presentations (30%). Each absence from a class meeting will result in 2% being deducted from the grade. A grade of satisfactory requires a final class grade of 70% or greater.

Disability Services

Any student who feels that she or he may need an accommodation based on the impact of a disability should contact me privately to discuss your specific needs. Please contact the Office for Disability Services at 614-292-3307 in room 150 Pomerene Hall to coordinate

reasonable accommodations for students with documented disabilities.

Academic Misconduct

I expect all students to act with integrity and students can expect that I do the same. I expect you to follow OSU's code for student conduct, which you can find at (http://studentaffairs.osu.edu/resource_csc.asp) and to avoid academic misconduct, a definition of which you can find at (<http://oaa.osu.edu/procedures/1.0.html>).

Class schedule

Week 1

Introduction, class organization, assignment of discussion leaders for weeks 2–8.

Week 2

Chapter 1, *Armageddon*. (pp. 3–18). Description of the impact, comparison to energy of nuclear bombs, what the world was like immediately after the impact.

Week 3

Chapter 2, *History Written in Rocks* (pp. 19–42). How we know what we know, deep time, records of Earth history.

Week 4

Chapter 3, *Gradualism vs. Catastrophism* (pp. 43–58). Uniformitarianism, the present is the key to the past, plate tectonics.

Week 5

Chapter 4, *Iridium* (pp. 59–81). Geology and physics, Gubbio clay layer iridium anomaly, KT mass extinction.

Week 6

Chapter 5, *The Search for the Impact Site* (pp. 82–105). Interdisciplinary collaborations, oceanic or terrestrial impact site, body of evidence.

Week 7

Chapter 6, *The Crater of Doom* (pp. 106–129). Tsunamis, craters, glass, the smoking gun.

Week 8

Chapter 7, *The World after Chixculub* (pp. 130–146). Cenozoic era, post-Uniformitarian world, can it happen again?

Week 9

Student Presentations

Week 10

Student Presentations

Biographical sketch

Dr. Anne E. Carey is an associate professor in the Department of Geological Sciences. She has a multi-disciplinary research program, based upon physical and chemical principles, in quantitative physical hydrology, geochemistry, and biogeochemistry. Her teaching at The Ohio State University has been diverse and reflects the variety of research interests in which she is engaged. Her background in Geological Sciences, hydrogeology and ecology has set

the context broadly for the large, non-majors general education classes she has successfully taught at Ohio State. Every year since 1999 her teaching has included a large introductory class to non-major students. She has now taught a large section GEC course, Introduction to Earth Science (GS 100), to approximately 900 students and has thrice taught a more advanced GEC class offered to both major and non-major undergraduate students (Marine Geology and Physical Oceanography, GS 206) to a total of 100 students. Her large classes are personal and interactive; she prides herself on getting to know her students.