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emphasize critical reading and application of scientific methods to reconstruction of geologically rapid events in deep time. Prerequisites: GEOS 322 and GEOS 315, or permission of instructor. (3+0) ^GEOS F315W GEOS F322 AND GEOS F315W, or permission of instructor. ٨

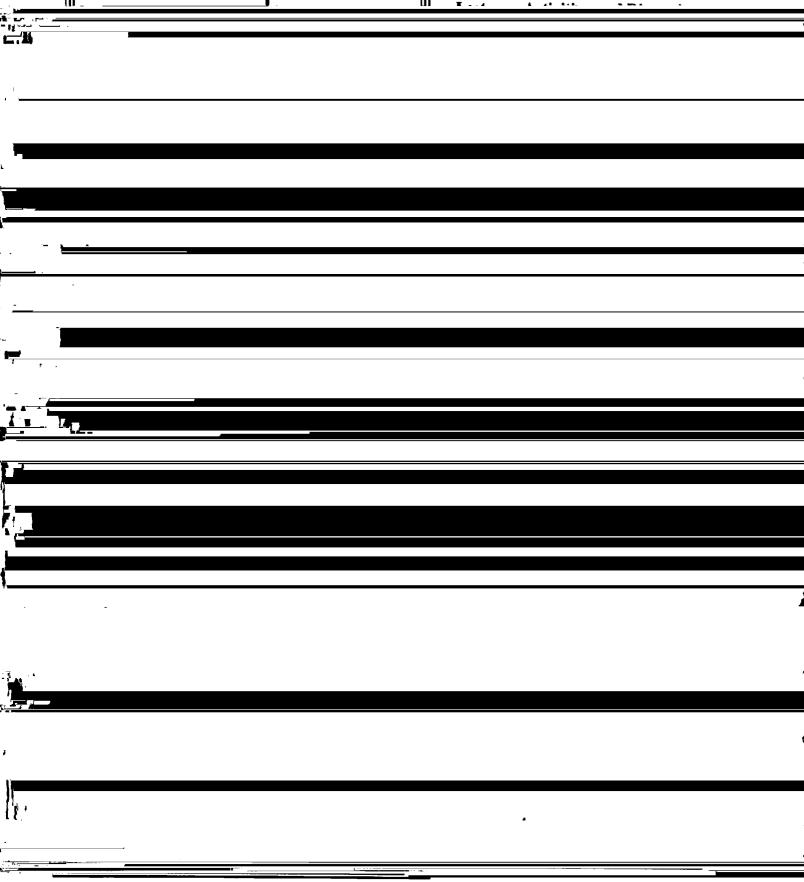
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APPROVALS: Add additional signature lines as needed. 9/23/11 Date 17/2/11

Mass Extinctions, Neocatastrophism and

GEOS 485 Course Syllabus



Learning Outcomes

This course will emphasize analytical thinking. Readings, lectures, and exercises will provide the necessary geological background and allow you to evaluate the evidence firsthand. Projects, critiques and discussions will encourage you to read critically and express your ideas in an organized format. Upon completing this course, you will be able to:

Outline evidence discovered in the rocks near Gubbio, Italy for an extraterrestrial impact at the end of the Cretaceous period

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	S Discuss how the Ordovician, Devonian, Permian, Triassic, and Cretaceous

- extinctions changed the course of evolution
- Treate a poster that illustrates the history of one fossil group or the evidence from one boundary section
- Critique articles about mass extinction in the popular media
- © Evaluate the impact of the Gubbio section with respect to theories of mass extinction and the tempo and mode of evolutionary change

Instructional Methodology

Classes will typically include a reading assessment activity, a mini-lecture (~45 minutes) and a group discussion, debate or brainstorming activity. Reading assessment activities are intended to evaluate comprehension and forge connections between reading assignments and lecture tonics. Lectures will provide necessary background and visual

	Dunionte Fools of von will accessed and Cale of the William W. Cale of
	Project: Each of you will research one of the "lesser" extinctions and prepare a poster to display your findings. Your job is to explore the subject in depth and prepare an overview for the class. The final poster should contain both a concise summary of your findings and some informative graphics. Completed posters will be put on display during the last week
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	Disabilities Act (ADA) and ensures that UAF students have equal access to the campus and course materials. I will work with the Office of Disability Services (474-7043) to
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Topics and Assignments

	Date	Topic	Assignment	1
		Mass Extinctions and Adaptive Radiations		
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References for Journal Articles:

Alego, T.J., and Scheckler, S.E., 1998. Terrestrial-marine teleconnections in the

anoxic events. Philosophical Transactions of the Royal Society R 353. 113.130

- McElwain, J.C., Beerling, D.J., and Woodward, F.I., 1999. Fossil plants and global warming at the Triassic-Jurassic boundary. *Science* 285: 1386-1390.
- Merlott, A.L. and 8 others, 2004. Did a gamma-ray burst initiate the late Ordovician mass extinction? *International Journal of Astrobiology* 3: 55-61.
- Olsen, P.E., and 8 others, 2002. Ascent of the dinosaurs linked to an iridium anomaly at the Triassic-Jurassic boundary. Science 296: 1305-1307

Retallack, G.J., Metzger, C.A., Greaver, T., Jahren, A.H., Smith R M H and Sheldon