

## GEOL 2096: Alpine and Glacial Geology

UNO-Innsbruck Summer School 2003

12:55 pm - 2:15 pm

This syllabus is subject to change as posted on a master copy in the classroom.

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Text: Monroe, J.S., and Wicander, R., 2001, *Physical Geology: Exploring the Earth* (4th edn.):  
Brooks/Cole Publishing Co., 712 p. ISBN 0-534-57222-7.

Other very good books on glacial and alpine geology are

Benn, D.I., and Evans, D.J.A., 1998, *Glaciers and Glaciation*: London, Arnold, 734 p.  
(ISBN 0 340 58431 9 and 0 470 23651 5) (GB2403.2 .B46 1998)  
Fuller, M. 1989, *Mountains: a natural history and hiking guide*: New York, John Wiley & Sons, 255 p.  
(QH541.5.M65F85 1989)  
Gerrard, A.J., 1990, *Mountain Environments*: Cambridge, MIT Press, 317 p. (ISBN 1-85293-080-2)  
(GB501.2.G47 1990)  
Ives, J.D., and Barry, R.G., 1974, *Arctic and Alpine Environments*: London, Methuen, 999 p. + 47 pl.  
(QH84.1.I950)  
Ollier, C., and Pain, C., 2000, *The Origin of Mountains*: London, Routledge, 345 p. (ISBN 0-415-19890-9)  
(QE621 .O45 2000)  
Price, L.W., 1981, *Mountains and Man*: Berkeley, Univ. of California Press, 506 p. (ISBN 0-520-03263-2)  
(GB501.2.P74)

Two good journals on alpine issues: *Arctic and Alpine Research* (G600.A7)  
*Mountain Research and Development* (GB500.M68)

Web page: Many illustrations used in lectures can be found at <http://www.gly.uga.edu/railsback/GeologicalDiagrams1.html>, and many slides shown can be found at <http://www.gly.uga.edu/railsback/FieldImages.html>. The course web page is at [http://www.gly.uga.edu/railsback/railsback\\_alpine.html](http://www.gly.uga.edu/railsback/railsback_alpine.html).

Prerequisites: None

UNO Judicial Code: Students must conduct themselves in appropriate manner and abide by all policies outlined in the UNO Judicial Code ([http://www.uno.edu/%7Estlf/Policy%20Manual/judicial\\_code\\_pt2.htm](http://www.uno.edu/%7Estlf/Policy%20Manual/judicial_code_pt2.htm)). Cheating, plagiarism, and academic misconduct will not be tolerated.

Learning Disabilities: Students with documented learning and/or testing disabilities will be accommodated, but such students must inform the instructor by the end of the third class meeting.

Attendance: The University of New Orleans requires that students attend classes in the International Summer School. Students with more than two unexcused absences will have two percent deducted from their final course grade for each unexcused absence in excess of two. UNO policy requires that unexcused absence from the Obergurgl trip be subject to a major penalty in grading.

UNO regulations state that a student who arrives after roll is taken is to be considered absent. This policy will not be enforced on the first offense but will be enforced after repeated offenses.

Purpose/Objectives: This course will cover basic geological principles necessary to understand the rocks, soils, and deposits commonly found in mountains, the structure and origin of mountain ranges, the processes and results of alpine glaciation, and the geologic basis of mountain ecosystems. Lectures early in the course will introduce ideas that we will develop with field trips on which we will explore the region around Innsbruck.

Questions: Students are encouraged to ask questions, and to remember that there are no stupid questions. The only mistake a student can make is to not ask a question.

Field Trips: A field trip to Obergurgl is required by UNO and will take place on Friday, July 25. Additional local field trips will be held during and after class meetings.

The field trips will require walking as much as three miles, but with occasional if not frequent stops. Several of the field trips will also require transportation by bus, which will be financed by UNO.

Sturdy shoes are a good idea on many of these field trips, and they are required on the Obergurgl trip. Rain gear is also a good idea, especially on the Obergurgl trip, and a walking stick can be useful too. A hand lens would be useful; a rock hammer would not.

Examinations: UNO requires that midterm and final exams be kept by the Administration in order to adjudicate possible appeals of grades. You will be given back your midterm exam, but you must hand it in at the beginning of the final exam in order to take the final exam. You will be allowed to see your graded final exam, but it will be kept by UNO.

Examinations will consist of roughly 20 multiple choice, matching, and short answer questions. Identification of features in slides or other illustrations may be required. The mid-term examination will also include identification of minerals and rocks.

The examinations should not be difficult for students who have attended class, who have gone on fieldtrips, who have reviewed their notes each afternoon or evening, and who have read the text. They will be difficult for those who have not done the above.

Etiquette: The students enrolled in the class are paying good money to hear the lectures given in the class. In order that they may do so, persons should limit their conversations unrelated to the lecture to a bare minimum during lecture. Persons who arrive late or who will leave early should take a seat in the back and relatively near the door, so that their arrival or departure causes a minimal disturbance to the business of the class.

Calculation of Course Grades: Midterm Exam: 40% Final Exam: 60%

Tentative GEOL 2096 Schedule and Topics: (events of July 16 & 17 may be switched)

<u>Day</u>	<u>Date</u>	<u>Mtg No.</u>	<u>Topic</u>	<u>Notes</u>	<u>Reading in M&amp;W 4th edn</u>
T	3-Jul	1	Basic Concepts	First Class Day	
F	4-Jul	2	Minerals		Chapter 2
S	5-Jul	3	Silicate Mins & Igneous Rx		Chapters 3 & 4
M	7-Jul	4	Sedimentary Rocks		Chapter 6
T	8-Jul	5	Metamorphic Rocks		Chapter 7
W	9-Jul	6	Field Trip 1 - Seds, Mins, & Rx - Innsbruck		None
T	10-Jul	7	Geologic Structures		381-400
M	14-Jul	8	Plate Tectonics		Chapter 12
T	15-Jul	9	Mountain-Building Processes		400-417
W	16-Jul	10	Mid Term Exam		None
T	17-Jul	11	Geology of the Alps		None
M	21-Jul	12	Alpine Glaciation - Ice & rock		Chapter 17
T	22-Jul	13	Alpine Glaciation - Flow and form		Chapter 17
W	23-Jul	14	Alpine Glaciation - Landforms		Chapter 17
T	24-Jul	15	Glaciation		Chapter 17
F	25-Jul		<i>Obergurgl Glacier Trip</i>		
M	28-Jul	16	Field Trip 2 - Glacial Geology - Hungerburg		None
T	29-Jul	17	Field Trip 3 - Glacial Geology - Arzl		None
W	30-Jul	18	Glaciation: Quaternary/Continental		Chapter 17
T	31-Jul	19	Mass Wasting: Landslides etc.		Chapter 14
M	4-Aug	20	The Appalachians & Himalayas		None
T	5-Aug	21	Alpine Ecology		None
W	6-Aug	22	Conclusion & Evaluation	Final Class Day	None
T	7-Aug		Final Exam 10:00 am-12:00 pm		

Reading assignments do not include Perspectives or Guest Essays unless specifically listed.