

GEOL 2096: Alpine and Glacial Geology

UNO-Innsbruck Summer School 2004

~~12:55 pm - 2:15 pm~~ 10:50 am -12:10 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., 2005, *Physical Geology: Exploring the Earth* (5th edn.): Brooks/Cole Publishing Co., 712 p. ISBN 0-534-39987-8.

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.
Fuller, M. 1989, *Mountains: a natural history and hiking guide*: New York, John Wiley & Sons, 255 p.
Gerrard, A.J., 1990, *Mountain Environments*: Cambridge, MIT Press, 317 p.
Ives, J.D., and Barry, R.G., 1974, *Arctic and Alpine Environments*: London, Methuen, 999 p. + 47 pl.
Ollier, C. and Pain, C., 2000, *The Origin of Mountains*: London, Routledge, 345 p.
Price, L.W., 1981, *Mountains and Man*: Berkeley, Univ. of California Press, 506 p.
Two good journals *Arctic and Alpine Research* (G600.A7)
on alpine issues: *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.

Prerequisites: None

UNO Judicial Code: Students must conduct themselves in an appropriate manner and abide by all policies outlined in the UNO Judicial Code (http://www.uno.edu/~stlf/Policy%20Manual/judicial_code_pt1.htm and http://www.uno.edu/~stlf/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. Students who come to class late are responsible for making sure their attendance is noted in the record.

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 30. That field trip is described on the course web page. Additional local field trips will be held during and after class meetings. This is a course for people who like field trips.

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 also 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: R&M Quiz: 20% Midterm: 30% Final: 50% Divisions between letter grades at 90, 80, 70, and 60% or lower are used. Dividing points are often lowered to allow a reasonable distribution of letter grades. There is always at least one "A", and there are usually several.

Tentative GEOL 2096 Schedule and Topics: (events of July 21 & 22 may be switched)

Day	Date	Lxr No.	Reading in M&W 5th edn
M	5-Jul	1 Basic Concepts	
T	6-Jul	2 Minerals	Chapter 2
W	7-Jul	3 Silicate Mins & Igneous Rx	Chapters 3 & 4
T	8-Jul	4 Sedimentary Rocks	Chapter 6
F	9-Jul	5 Metamorphic Rocks	Chapter 7
M	12-Jul	6 Field Trip 1 - Seds, Mins, & Rx - Innsbruck	None
T	13-Jul	7 Rock & Mineral Quiz	
W	14-Jul	8 Geologic Structures	364-380
T	15-Jul	9 Plate Tectonics	Chapter 12
M	19-Jul	10 Mountain-Building Processes	380-392
T	20-Jul	11 Geology of the Alps	None
W	21-Jul	12 Mid Term Exam	
T	22-Jul	13 The Appalachians & Himalayas	None
M	26-Jul	14 Alpine Glaciation - Ice & rock	Chapter 17
T	27-Jul	15 Alpine Glaciation - Flow and form	Chapter 17
W	28-Jul	16 Alpine Glaciation - Landforms	Chapter 17
T	29-Jul	17 Glaciation	Chapter 17
F	30-Jul	Obergurgl Glacier Trip	None
M	2-Aug	18 Field Trip 2 - Glacial Geology - Hungerburg	None
T	3-Aug	19 Field Trip 3 - Glacial Geology - Arzl	None
W	4-Aug	20 Glaciation: Quaternary/Continental	Chapter 17
T	5-Aug	21 Mass Wasting: Landslides etc.	Chapter 14
M	9-Aug	22 Alpine Ecology I	None
T	10-Aug	23 Alpine Ecology II	None
W	11-Aug	24 Conclusion & Evaluation	None
w	11-Aug	Final Exam 6:00 pm-8:00 pm	

Reading assignments do not include Perspectives or Guest Essays unless specifically listed. This syllabus is subject to change as posted on a master copy in the classroom.