

Lecturer: Dr. Nico Perdrial

Office: Room 327 Delehanty Hall (Trinity Campus); email: Nicolas.perdrial@uvm.edu

Office Hours: WF 9:30 to 10:30; F 1:30 to 3; I can also meet with you directly after class. There may be other times during the week I can meet with you; please feel free to arrange time with me outside these office hours.

Teaching Assistants:

Geology Graduate students Teaching Labs: Jo Martin, Kristin Schnalzer, Thomas Adler and Austin Wilkes & Griffin Moyer as TA coordinator (awilkes@uvm.edu ; Griffin.Moyer@uvm.edu)

The graduate student office is in Room 314 Delehanty.

Lab assignments (who's teaching which labs) and contact information are posted on the Blackboard class site.

Texts: Marshak, 2016, *Essentials of Geology*, 5th Edition, Norton. This is also available as an ebook <https://digital.wwnorton.com/essgeo5>.

Note: This book is on short-term reserve at the library.

Lab Materials: Labs will be available via the Blackboard class web site for you to download as PDF files. *It is your responsibility to print a copy of the current lab and bring this with you to lab.* Labs will often have a page of "Pre-Lab" questions for you to answer and turn in at the beginning of your lab.

iClickers: We'll be using "clickers" in the class to foster your participation. You will be awarded "participation" credit for regularly using these clickers in class. You will not be penalized for incorrect answers. Everyone will be given **6 free absences**, i.e. 6 times when you forgot your clicker or the batteries ran out, etc, before not using your clicker begins to affect your grade. Please register your clickers via the BB site.

Class Tutoring

Tutoring is usually available through The Learning Cooperative in Living & Learning Commons Room 244.

Blackboard Class Site:

Please use Blackboard to:

- (1) Find a copy of the course "Description" (this document) and "Calendar" describing course objectives, policies, class schedule, lab schedule, reading assignments, and exam schedules;
- (2) View/download slides presented in lecture. Class slides will be available as PDF files;
- (3) Download Labs for you to print and bring to lab;
- (4) Access supplemental course materials, e.g. animations, exam review materials;
- (5) Take short, required quizzes based on your reading in the textbook.

Course Objectives:

- *I would like you to come away from this class understanding some of the fundamental processes that produce geologic materials (minerals, rocks, and surficial materials), geologic structures, and landforms in the context of Plate Tectonics;*
- *I would like you to appreciate geologic time, both its breadth and the rates at which different geologic processes operate;*
- *I also want you to learn how to observe/describe/measure different types of rocks (e.g. sandstone, limestone), structures (e.g. bedding, mud cracks, folds, faults), and landforms (e.g. mountain belts, river systems, glaciated terrain);*
- *Based on your observations, I want you to learn how to interpret (1) the type or types of geologic processes that have taken place, (2) a sequence of events (past geologic processes and environments) that have taken place in the past that "fit" your observations, and (3) how these geologic events fit into geologic history, specifically the geologic history of northern Vermont.*

Geology is the study of "Earth Materials" and the **Processes** that affect those materials, usually in the context of **History**, sometimes short, but oftentimes a very long history. Usually geologists try to understand what's happened in the past, but we also try to predict what will happen in the future, based on our understanding of the past and the way the earth works. Geology integrates many of the physical and biological sciences and uses a wide variety of investigative tools. In this course we will introduce you to some of these materials and processes: i.e. show you how to describe rocks, surficial materials, landforms, structures, etc. and also describe the types of processes that produce these materials and move them from one place to another both on and within the earth. We will also begin to decipher some of Earth's past history, focusing on our local history here in northern Vermont, and discuss why this is important regarding our future. Above all, geology is about making observations of the world around us and trying to understand how it works. We will be making observations and interpreting some Earth processes in this course.

Labs and Field Trips

Geologic knowledge is primarily gathered from field investigations. The field trips and labs will develop your skills of observation, description, and interpretation of geological phenomenon.

Up through late October, most of your labs will be field trips. ***Dress appropriately!!: Be prepared for cold weather, ice, snow, mud, wind, rain, and steep, rough, slippery ground.***

Labs during the late fall will be indoors (Room 105 Delehanty). Please bring your printed lab along with a pencil/eraser, notebook, calculator, a ruler with a centimeter scale, and a couple of colored pencils to your lab.

Missed Lab: All lab sections will be doing the same lab during the same lab cycle (usually Tuesday through Monday). If you miss a lab due to illness, please try to arrange, through your TA, another lab to attend during the same lab cycle. If you have a planned absence, please work with your TA to arrange a make-up time.

The lab is a required part of this course. **If you do not attend the lab or otherwise fail the lab, you will not pass this course, regardless of how well you do on the exams. Students with more than 1 unexcused lab absence will fail the lab and fail the class.**

TA Lab Assignments: Please check the "Syllabus" tab of the Blackboard website to find who will be teaching your lab and how to contact them.

Grading:

Blackboard Quizzes: As an incentive to work your way through the textbook material in a timely way, you will be given approximately weekly on-line quizzes based on the reading from the text book. Each quiz will be available for you to take any time during an approximately week-long time block. Each quiz may be taken an unlimited number of times and only your best score will be recorded. Your low quiz score will be dropped.

iClickers: You will receive a participation grade for discussing questions I pose in class with your peers and regularly using your clicker to answer these questions. Everyone will be allowed 6 absences before your participation grade is affected.

Labs: Your lab grades will be based on Graded Lab Work and your participation. Please bring a calculator and a metric straight-edge to lab. Low lab scores will not be dropped. You are allowed only one unexcused absence before you fail the lab and fail the class.

Midterms: There will be two midterm exams given during an evening common hour. Material presented during the lab *will appear* on exams. Study questions from old exams will be posted prior to the exam. Many exam questions will be culled from examples given during class as well as quiz and study questions. No electronic devices are allowed during the exam. This includes but is not limited to mobile phones, calculators, and computers.

Final Exam: There will be a Final Exam, approximately two thirds of which will cover material from the last third of the class and approximately one third of which will be cumulative. Material presented during the lab *will appear* on exams. No electronic devices are allowed during the exam. This includes but is not limited to mobile phones, calculators, and computers.

Slides (pictures) that I project in the class or similar to ones I've projected during the class will appear on some exams. All lecture slides will be posted as PDF files on the Blackboard site for you to review.

Final Grade: Your final grade will be based on the above criteria weighted approximately as follows:

Midterms (2)	32%	iClicker participation	6%
Final Exam	18%	Blackboard Chapter Quizzes	12%
Lab Work	32%		

Class Rules:

Please don't talk during class unless we're having a class discussion. It's very distracting to other students trying to concentrate. You're more than welcome to get up and leave the class if you want to talk to someone.

Please don't use your phone during class. If you need to talk to or text someone during class, please leave the classroom.

If you don't come to class, you're still responsible for material presented here. You can review the class slides on the Blackboard site. Please don't email me asking questions that were answered in a class you missed.

I generally will have much more time to talk to you after class than before.

I invite you and encourage you to participate during class. I can't force you to do this, but if you choose not to participate, please don't prevent others who wish to.

TENTATIVE SCHEDULE:

Geology 1 Calendar: Fall 2018						
Week	Monday Lecture	Wednesday Lecture	Friday Lecture	Field Trip/Lab	Readings from your textbook "Essentials of Geology" (Marshak)	
NOTE: The Lecture Topics and Reading Assignments listed here are approximate. Specific assignments will be made during class.						
Week 1	27-Aug	Introduction	Geological Materials; Minerals: Building Blocks	Mineral Classes	No Labs this week	Prelude (pp. 1–8); Chpt 1: Box 1.1, pp24-25, Chpt1.6, 31; Chpt 3: Minerals
Week 2	3-Sep	Labor Day Holiday	Mineral Classes (cont)	Rock Groups and the Rock Cycle	Huntington River Field Trip, Part 1	Interlude A: Rock Groups (p103); Interlude C: The Rock Cycle (p236)
Week 3	10-Sep	Introduction to Sedimentary Rocks	Sedimentary Rocks (cont)	Sedimentary Rocks (cont)	Salmon Hole Field Trip	Chpt 6: Pages of Earth's Past: Sedimentary Rocks; Interlude E: Fossils and Evolution
Week 4	17-Sep	Relative Geologic Dating Techniques	Absolute Geologic Dating Techniques	Interpreting Depositional Environments	Winooski River Field Trip	Chpt 10: Deep Time: How Old is Old?
Week 5	24-Sep	Introduction to Geologic Structures	Geologic Structures (cont)		Shaw's Field Trip	Interlude B: A Surface Veneer: Sediments and Soils; Chpt 16.1 & 16.7: Caves and Karst
Week 6	1-Oct	1st Midterm Exam: 7 PM; Review session during class	Introduction to Weathering Processes	Weathering Processes (cont)	No Labs this week	Chpt 9: Crags, Cracks, and Crumples: Crustal Deformation and Mountain Building
Week 7	8-Oct	Fall Recess	Interpreting Vermont's Geologic History	Vermont's Geologic History (cont)	Lessor's Quarry Field Trip	Chpt 11.1 to 11.5: A Biography of Earth
Week 8	15-Oct	Metamorphic Rocks: Classification, Structures, Associations with Plate Boundaries			Lone Rock Point Field Trip	Chpt 7: Metamorphism: A Process of Change
Week 9	22-Oct	River Systems		Introduction to Plate Tectonics	Jonesville & Huntington Gorge Field Trip	Chpt 14: River Systems Chpt 2: The Way the Earth Works: Plate Tectonics
Week 10	29-Oct	Plate Tectonics (cont)			<i>Huntington River Part 2: Channel Cross-sections, Discharge calculations (Inside Lab)</i>	Chpt 2 (cont)
Week 11	5-Nov	2nd Midterm Exam: 7 PM; Review session during class	Introduction to Igneous Rocks	Formation of Magma	Plate Tectonics Lab	Chpt. 4: Up from the Inferno: Magma and Igneous Rocks
Week 12	12-Nov	Igneous Rocks: Classification, Types of Intrusions, Volcanos and Volcanic Eruptions			Igneous Rocks and Landforms Lab	Chpt 5: The Wrath of Vulcan: Volcanic Eruptions
Week 13	19-Nov	Thanksgiving Break Week				
Week 14	26-Nov	The Modern Ice Age; Introduction to Glaciers	Glacial Processes and Landforms	Interpreting Past Climate from Ice in Glaciers	Glacial Landforms Lab	Chpt 18: Amazing Ice: Glaciers and Ice Ages
Week 15	3-Dec	Glaciers and Climate	Glaciers and Climate (cont)	LAST CLASS: Summary and Course Eval	<i>Only Monday Labs Meet this Week</i>	Chpt 19: Global Change in the Earth System
Exam Week	10-Dec	Final Exam Mo Dec 11: 10:30 AM				

Student Learning Accommodations: In keeping with University policy, any student with a documented disability interested in utilizing accommodations should contact ACCESS, the office of Disability Services on campus. ACCESS works with students and faculty in an interactive process to explore reasonable and appropriate accommodations via an accommodation letter to faculty with recommended accommodations as early as possible each semester.

Contact ACCESS: A170 Living/Learning Center; 802-656-7753; access@uvm.edu; www.uvm.edu/access

UVM's policy on disability certification and student support: www.uvm.edu/~uvmppg/ppg/student/disability.pdf

Religious Holidays: Students have the right to practice the religion of their choice. If you need to miss class to observe a religious holiday, please submit the dates of your absence to me in writing by the end of the second full week of classes. You will be permitted to make up work within a mutually agreed-upon time.

Academic Integrity: The policy addresses plagiarism, fabrication, collusion, and cheating.
<http://www.uvm.edu/~uvmppg/ppg/student/acadintegrity.pdf>

Grade Appeals: If you would like to contest a grade, please follow the procedures outlined in this policy:
<http://www.uvm.edu/~uvmppg/ppg/student/gradeappeals.pdf>

Grading: For information on grading and GPA calculation, go to www.uvm.edu/academics/catalogue and click on Policies for an A-Z listing.

For grading, I use the following grading scale rounded up such as

97-100%: A+	77-80%: C+
93.5-97%: A	73.5-77%: C
90-93.5%: A-	70-73.5%: C-
87-90%: B+	67-70%: D+
83.5-87%: B	63.5-67%: D
80-83.5%: B-	60-63.5%: D-
	< 60%: F

Code of Student Rights and Responsibilities: www.uvm.edu/~uvmppg/ppg/student/studentcode.pdf

FERPA Rights Disclosure: The purpose of this policy is to communicate the rights of students regarding access to, and privacy of their student educational records as provided for in the Family Educational Rights and Privacy Act (FERPA) of 1974.
<http://www.uvm.edu/~uvmppg/ppg/student/ferpa.pdf>