

Dakota College at Bottineau Course Syllabus

Course Prefix/Number/Title: **GEOL 105, Physical Geology**

Number of credits: **4 Credits**

Course Description: **The purpose of this course is to present the various aspects of physical geology. Geology, the study of Earth, benefits everyone who lives on the planet.**

Pre-/Co-requisites: **none**

Course Objectives: **By the end of the course, you should be able to: 1) Understand the relationship of our Earth with the rest of the universe. 2) understand how the Earth works 3) understand how and why different kinds of substances are distributed on and in our Earth 4) Know how rocks and minerals are identified 5) be familiar with different geologic structures and how they are formed 6) understand that intelligently searching for metals, sources of energy, and gems is our responsibility. In addition we will work toward the regard of the environment and understanding of geologic hazards.**

Instructor: **Angela Bartholomay**

Office: **NSC 113**

Office Hours: **MWF 11-2, TTh 1-4pm**

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Lecture/Lab Schedule: **Lecture 2-2:50pm MWF, Lab W 3-5pm & Th 10-12**

Textbook(s): **Physical Geology by Plummer & Carlson 12th Ed.**

Course Requirements:

Grades will be based on total points using the following percentage system:

100-90, A; 89-80, B; 79-70, C; 69-60, D; <60% F.

Assessment methods- measurement of the expected general education outcomes will be achieved through exams, quizzes, laboratory exercises and final projects.

Exams- There will be 5 exams during the course of the semester. All exams will be worth 100 points. If you are going to miss an exam, you are expected to make it up ahead of time. Make up exams will be different and will be worth 70%, which must be made up within a week following the original exam.

Lecture- Lecture outlines are available on eres. Exam questions will originate from lectures and end of the chapter questions.

Quizzes- There will be 10-12 quizzes. End of the chapter questions will not be graded but may be used to assist you on the quizzes. The quizzes cannot be made up unless you have made prior arrangements with the instructor. You will be given one week to make up the quiz.

Laboratory- The laboratory portion of the course provides an opportunity to integrate lecture

concepts with observable activities. Lab reports are due during the following lab period. Labs not turned in on time are worth 50% of the graded score on the lab. A Final scavenger hunt for geologic landforms, rocks and minerals is your final lab Project and is worth 100 points.

Tentative Course Outline:

<u>Lecture Schedule</u>	<u>Reading assignment</u>	<u>Lab schedule</u>
Jan 12 Introduction	p. 3-14	
Jan 14 Plate tectonics	p. 15-25	
Jan 17 Martin Luther King Day-No Class		
Jan 19 Earth chemistry	p. 29-41	Mineral identification & Quiz
Jan 21 Minerals	p. 41-51	
Jan 24 Igneous Rocks	p. 55-68	
Jan 26 volcanic features	p. 68-79	Igneous Rock identification & quiz
Jan 28 volcanism	p.83-95	
Jan 30 Extrusive rocks	p. 95-109	
Feb 2 Review		plates & volcanism lab
Feb 4 Exam #1	Chapters #1-4	
Feb 7 Weathering	p. 113-124	
Feb 9 Soil formation	p. 124-134	soil lab
Feb 11 sediments	p. 137-152	
Feb 14 sedimentary rocks	p. 152-166	
Feb 16 metamorphism	p. 169-183	sedimentary rock identification & quiz
Feb 18 metamorphic rocks	p. 183-191	
Feb 21 President's Day- No School		
Feb 23 Geologic Time	p. 193-205	Metamorphic rock identification & quiz
Feb 25 Geologic time scale	p. 205-216	
Feb 28 Review		
Mar 2 Exam #2	Chapters #5-8	fossil Lab
Mar 4 mass wasting	p. 221-237	
Mar 7 landslide prevention	p. 237-244	
Mar 9 streams	p. 247-257	Seeing A Watershed
Mar 11 stream features	p. 257-267	
Mar 14-18 Spring Break- No Class		
Mar 21 floods	p. 267-281	
Mar 23 ground water	p. 283-297	Get the Ground Water Picture
Mar 25 Ground water features	p.297-307	
Mar 28 ground water pollution	p.307-316	
Mar 30 Glaciers	p. 316-327	Glacial features of ND
Apr 1 Glaciation & review	p. 327-335	
Apr 4 Exam #3	Chapters #9-12	
Apr 6 Geologic Structures	p. 383-395	Earth Day Projects
Apr 8 Faults & Earthquakes	p. 395-419	
Apr 11 Earthquakes	p. 419-438	
Apr 13 Earthquake & plates	p. 491-504	Earthquake Location
Apr 15 plate tectonics	p. 504-524	
Apr 18 Exam #4	Chapters #15,16 & 19	
Apr 20 Earth Day		Earth Day

Apr 22 Good Friday- No Class

Apr 25 Easter Break- No Class

Apr 27 Geologic resources p. 551-566

Apr 28th Tour Day

Apr 29 metallic resources p. 566-581

May 2 Earth in Space p. 583-596

May 4 Planets p. 597-612

solar system

May 6 Solar System p. 612-617

May 8 Universe

May 11-13 Exam #5 Chapters #21-22 No Lab

General Education Goals/Objectives: **1) For a student to have a greater appreciation and understanding of the Earth on which they live and depend. 2) For each student to be able to use the knowledge they obtained in their future.**

Relationship to Campus Theme: **A greater understanding of the Earth, Earth's resources and its companions in the solar system will lead to a greater respect for the environment. components of technology will lead to this understanding. Students will explore career options for their future.**

Classroom Policies: **Attendance in class is expected at every lecture and laboratory period. If you are absent, please find another student to obtain the notes. For an exam, if you know you will be absent from class or if you are ill, please notify me, prior to the exam, so that the exam can be rescheduled. If I am not notified your test will be worth 70%. Quizzes cannot be made up unless prior approval has been made. All make-up work must be completed within one week.**

Academic Integrity: **All laws pertaining to copyright infringement must be adhered to closely. any information you used in oral presentations must be adequately documented and referenced, giving credit to the appropriate person(s). Academic honesty is expected. any violations of these terms is sufficient grounds for immediate failure and removal from class. Cell phones must be turned off during class time.**

Disabilities and Special Needs: **Any student who has a disability that may prevent them from fully demonstrating their abilities should contact the instructor to discuss accommodations necessary to ensure full participation and facilitate his or her educational opportunities.**