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

Number of credits: 4 Credits

Course Description: A lecture and laboratory study of the Earth as a physical body; its structure, composition, and the geologic processes acting on and within the Earth.

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. Travel may be necessary to understand the role of Geology in everyday life.

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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 a final project.

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 from the moodle shell. The outlines can be used to guide you in the understanding of the material and assist in note taking. Be prepared and have the outlines ready for class.

Quizzes- There will be 10-12 quizzes due each Wednesday. End of the chapter questions will be assigned will not be graded but may be used to assist you on the quizzes.

Laboratory- The laboratory portion of the course provides an opportunity to integrate lecture concepts with observable activities. There will be no make-ups for labs unless prior arrangements are made and the lab write-ups are due during the next lab period. No credit will be given for dry labs!

Final lab project- This scavenger hunt allows you to demonstrate what you have learned Throughout the semester.
Lecture Schedule | Reading assignment | Lab schedule
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**Week 1**
Chapter #1 | p. 3-25 | introduction | No Lab
Chapter #2 | p. 29-41 | minerals |
**Week 2**
Chapter #2 | p. 41-51 | igneous rocks | Mineral identification
**Week 3**
Chapter #3 | p. 55-76 | |
**Week 4**
Chapter #4 | p. 83-109 | volcanism | Igneous Rock identification
**Exam #1** | Chapters #1-4 |
**Week 5**
Chapter #5 | p. 113-133 | weathering & soil | Soil lab
**Week 6**
Chapter #6 | p. 137-165 | sedimentary rocks | Sedimentary rock identification
**Week 7**
Chapter #7 | p. 169-190 | metamorphic rock | Metamorphic rock id
**Week 8**
Chapter #8 | p. 193-216 | Geologic time | Geologic time
**Exam #2** | Chapters #5-8 | Fossil Lab
**Week 9**
Chapter #9 | p. 221-244 | mass wasting |
Chapter #10 | p. 247-280 | streams & floods |
**Week 10**
Chapter #11 | p. 283-303 | Ground water |
**Week 11**
Chapter #12 | p. 307-335 | Glaciers | topographic maps
**Exam #3** | Chapters #9-12 |
**Week 12**
Chapter #15 | p. 383-403 | Geologic structures |
**Week 13**
Chapter #16 | Earthquakes | Earthquake location lab |
**Week 14**
Chapter #19 | p. 407-438 | plate tectonics |
**Week 15**
Chapter #20 | p. 491-522 | Mountain building |
Chapter #21 | p. 527-548 | Geologic resources |
**Week 16**
Chapter #22 | p. 551-579 | Planets & solar system | Final Lab presentations
**Exam #4** | Chapters 15,16, 19-22 |
**Final lab project** | Due Dec.9 |
**Final Exam** | Dec. 16 |

General Education Goals/Objectives: Goal 1: Describes the interrelationships between humans and their environment and the role of science in their lives

Objectives
1: Demonstrates the application of the scientific method of inquiry
2: Demonstrates understanding of the natural environment
3: Demonstrates an awareness of how science influences everyday life

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. Students will explore career options for their future.

Classroom Policies: All work must be done in a timely fashion. All assignments are open and have due dates. If you miss a deadline for a quiz or exam, and wish to make it up let me know so I can open it for you, missed quizzes and exams will be worth 70%. All make-up work must be completed within one week.

Academic Integrity: Academic honesty is expected, any violations 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 disability services
Jacalyn Migler 228-5672 jacalyn.migler@dakotacollege.edu to discuss accommodations necessary to ensure full participation and facilitate his or her educational opportunities.