Course title and number  GEOL 102: Principles of Geology Laboratory
Term  Fall 2016
Meeting times and location

Course Description and Prerequisites

This is a laboratory exercise-based introduction to the physical and chemical nature of the Earth and dynamic processes that shape it. This class complements the lecture course GEOL 101, but may be taken as a standalone course.

Prerequisites: none

Learning Outcomes

Students will learn how to use and express geological knowledge through individual and group lab exercises that will also develop the following core skills. Students will be assessed on both knowledge and skills in exercises and tests in lab. (For instance, students may be asked to work in groups to identify specific rocks that would record information about the tectonic history of a region, analyze a map showing the distribution of their selected rocks, and then report their findings in writing.)

- Think critically about geological problems by 1) identifying data and areas of uncertainty, 2) distinguishing between data that are relevant and irrelevant to specific problems, and 3) logically testing hypotheses.
- Communicate about geological problems by 1) organizing written and oral discussions in order to emphasize relevant data and provide a logical flow to a well-supported conclusion, and 2) supporting written text with well-chosen diagrams or illustrations.
- Use empirical and quantitative skills to solve geological problems by 1) constructing and analyzing graphs, 2) describing three-dimensional structures or surfaces from two-dimensional representations (e.g. maps or projections), and 3) identifying patterns or trends from historical data.
- Work in teams to solve geological problems by 1) recognizing different points of view, 2) designing and executing plans to test or reconcile opposing hypotheses, and 3) identifying and reporting areas of uncertainty that prevent consensus.

Textbook and/or Resource Material

Busch, Physical Geology Laboratory Manual, Custom edition for Texas A&M

Grading Policies

Grades will be assigned based on the following assessments:

- Quizzes 30%
- Project 10%
- Exercises 20%
- Midterm 20%
- Final 20%

Numerical grades will converted to a letter grade as follows: 90.0–100.0 = A, 80.0–89.9 = B, 70.0–79.9 = C, 60.0–69.9 = D, <60.0 = F.
Course Topics, Calendar of Activities, Major Assignment Dates

Week | Topic |
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1. Aug. 31-Sept. 4 | Plate Tectonics I |
2. Sept. 7-Sept. 11 | Minerals |
3. Sept. 14-Sept. 18 | Igneous rocks |
4. Sept. 21-Sept. 25 | Sedimentary rocks |
5. Sept. 28-Oct. 2 | Metamorphic rocks; |
6. Oct. 5- Oct. 9 | Mid-term exam |
7. Oct. 12- Oct. 16 | Topographic maps |
10. Nov. 2- Nov. 6 | Geophysics; earthquakes |
11. Nov. 9- Nov. 13 | Hydrogeology |
12. Nov. 16- Nov. 20 | Petroleum Geology |
13. Nov. 23- Nov. 27 | Thanksgiving, no lab |
14. Nov. 30-Dec. 4 | Final exam |

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If you have any questions regarding plagiarism, please consult the latest issue of the Texas A&M University Student Rules, [http://student-rules.tamu.edu](http://student-rules.tamu.edu), under the section "Scholastic Dishonesty."

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additional information visit http://disability.tamu.edu

Absence Policy
This class will follow the University's policy for excused absences. For more information, please see Section 7 of the student rules: http://student-rules.tamu.edu