**GLY 211L HISTORICAL GEOLOGY LAB SP-18**

Lab Manual\*: Lab Handouts will be provided.

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# Course Description

GLY 211L Historical Geology Laboratory, 1 credit hour

Reconstruction of events in earth history based on physical characteristics and

arrangement of rock layers and their fossil content.

# Course Objectives/Methods of Assessment

The goals of the lab are to acquire hands-on experience in the use of stratigraphic and paleontologic principles that provide the basis for our current understanding of earth history. Specific goals are for each student to:

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| **Course Objective** | **Student Activity** | **Assessment Tool** |
| develop proficiency in the recognition of sedimentary rock types and structures, and their genetic implications for ancient depositional environments. | Lab exercises,  Field Trips | Lab Exercise Grades Quizzes |
| gain an understanding of various types of correlation used in stratigraphic analysis. | Lab exercises,  Field Trips | Lab Exercise Grades Quizzes |
| grasp and utilize relative and absolute age dating principles to unravel the historical development of portions of the earth’s crust. | Lab exercises,  Field Trips | Lab Exercise Grades Quizzes |
| be able to classify various types of body and trace fossils and use them in paleoenvironmental interpretation. | Lab exercises,  Field Trips | Lab Exercise Grades Quizzes |
| acquire an understanding of types of fossilization. | Lab exercises,  Field Trips | Lab Exercise Grades Quizzes |
| gain insight, skills, and experience in ‘reading the rocks’ by using a process-response approach and the Principle of Uniformitarianism (Actualism). | Lab exercises,  Field Trips | Lab Exercise Grades  Quizzes |
| acquire experience in the quantitative description and interpretation of grain size and shape data | Lab exercises,  Field Trips | Lab Exercise Grades  Quizzes |
| gain field experience the measurement and interpretation of stratigraphic sections | Lab exercises,  Field Trips | Lab Exercise Grades  Quizzes |

**Lab No. Tentative List of Topics**

1 Relative Time & Sequence of Events

2 Radioisotopic Dating Techniques

3 Description/Classification of Rocks

4 Interpretation of Sedimentary Rocks

5 Grain Size and Shape Analysis

6 Lithostratigraphy

7 Biostratigraphy

8\_\_**QUIZ # 1**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9 Field Trip 1 Stratigraphy and Paleoenvironments (March 6)

10 Fossils: Identification, Anatomy, Mode of Life

11 Paleoecology

12 Field Trip 2 Fossils, Paleoecology (April 3)

13 Measuring & Interpreting Stratigraphic Sections (in the field)

14 Measuring & Interpreting Stratigraphic Sections (in the field)

15\_\_**QUIZ # 2**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Grading**

Lab Exercises 20 % 90-100 A

Quiz # 1 35 % 80-89 B

Quiz # 2 35 % 70-79 C

Attendance 5 % 60-69 D

Participation 5 % <60 F

Final letter grades will be assigned on the basis of your final average as follows:

A (90-100), B (80-89), C (70-79), D (60-69), F (<60). The attendance grade will be based on the number of unexcused absences (cuts). No cuts=100%. Roll will be taken at the beginning of each lab. If you arrive late, it is your responsibility to notify the instructor that you are present at the end of the period. Unexcused absences will count against the attendance grade. Lateness will also be penalized. The participation grade is based on student’s preparation for lab and ability to respond to assigned questions and participate in class discussions. Since you must be present to participate, attendance will also affect the participation grade.

**Course Policies**

Only a University Excused Absence will be considered a legitimate reason for missing lab or a quiz, or for turning in assignments late. A lateness penalty of 10 points will be assessed for labs turned in late and none will be accepted (i.e. grade = 0) after they are returned to the class. If you miss lab without a university excuse, you are still responsible for making up the work and turning it in on time before the next lab.

Any form of academic dishonesty that occurs will result in dismissal from the course and an automatic final grade of “F”. A letter outlining the offense will be forwarded to the academic dean for consideration of further action. See academic dishonesty <http://www.marshall.edu/catalog/files/UG_17-18_published_09-15-17.pdf>.

**Official University Policies**

All students must follow University policies as specified at [www.marshall.edu/academicaffairs/policies/](http://www.marshall.edu/academicaffairs/policies/).