

ES202 Quiz 1 Online Quiz Logistics / Updated Study Guide (updated Winter 2022)

Quiz Logistics: Quiz 1 will occur on Friday Jan. 28, 2022, worth a total of 25 points, 1 point per question x 25 questions. Quiz questions will be comprised of multiple choice, true/false and short answer-fill in blank. The online quiz will be available as a link at the top of the General Section of the ES202 Lecture Class Canvas Shell, between 8 AM and 11 PM on quiz day. Once a student begins the quiz, it will be timed for 30 minutes. You may begin the quiz at any time between 8 AM and 11 PM, but make sure that once you start it, you have enough time before the 11 PM cut-off availability to complete the quiz. The quiz questions will be submitted only once, with no opportunities for resubmissions. The Professor will be manually grading your quizzes and reviewing your answers, in addition to the automated Canvas grading tools; typos and misspelled words in short answer will be evaluated for correctness in content. Additional testing accommodations are possible by prior arrangement with the professor.

Recommended Study Techniques

- (1) review pre-lab questions and video review exercises: study the questions and answers
- (2) review the "How to Study" Physical Science Guide
- (3) use the key words / concepts as a checklist below as a guide to help you focus on the class notes
- (4) memorize terms and concepts
- (5) go over your on-line practice quiz questions / answers, make sure you know the answers
- (6) go back over the labs and make sure you can do the tricks / skills
- (7) review the important figures in your lab manual and text

NOTE: I would spend a minimum of 3 hours studying for this quiz if I wanted to do well.

Review Questions from Homework Assignments:

- Chapter 1 Introduction Reading Review Questions
https://people.wou.edu/~taylors/g202/Reading_Review_Questions_Chapter1_Introduction.docx
- Earth Revealed Down to Earth Video Review Questions
https://people.wou.edu/~taylors/g202/Video_Exercise_Earth_Revealed_Down_to_Earth.docx
- Earth Revealed Plate Dynamics Video Review Questions
https://people.wou.edu/~taylors/g202/plate_dynamics_review_questions.pdf
- Earth Revealed Minerals Video Review Questions
https://people.wou.edu/~taylors/g202/mineral_video_ex.pdf
- Intro to Rocks and Minerals Video Review Questions
https://people.wou.edu/~taylors/g202/video_exercise_rock_cycle.docx
- Pre-Lab Concept Review Questions: Minerals-Rocks-Plate Tectonics
https://people.wou.edu/~taylors/g202/Pre-Lab2_tectonics-minerals-rocks.pdf
- Earth Revealed Sedimentary Rock Video Review Questions
https://people.wou.edu/~taylors/g202/sed_videx.pdf
- AGI Building the Planet Video Review Questions
https://people.wou.edu/~taylors/g202/Shaping_Planet_Earth_Questions_ver2.docx
- Pre-Lab Review Questions: Sedimentary Rocks
https://people.wou.edu/~taylors/g202/Pre-Lab3_sedimentary_rocks.pdf

Moodle Online Practice Quizzes

- Task 2-1 Practice Quiz: Plate Tectonics, Minerals, Rocks
- Task 3-1 Practice Quiz: Sedimentary Rocks

Lab Exercises

- Task 3-5 Physical Properties of Minerals

Part 1. Class Notes / Lecture Concepts

Key Words

Fundamentals/ Intro

<http://www.wou.edu/las/physci/taylor/g202/202intro.pdf>
https://people.wou.edu/~taylors/g202/Intro_Earth_System_Sci_Method.pdf

Environmental Spheres
Lithosphere
Biosphere
Hydrosphere
Age of the Earth
Ultimate Driving Forces
 Climate
 Gravity

Tectonics
Crustal Composition
Core
Mantle
Crust
Oceanic Crust
Continental Crust
Asthenosphere
Lithosphere
"Plates"
Scientific Method
Hypothesis
Experimental Design
Unit Algebra

Unit Conversion
Graphing
~~Equation of Line~~
~~Slope of Line~~
 ~~$y = mx + B$~~
~~map view~~
~~cross-section view~~
~~3-D view~~
metric / English units
mass
temperature
density

Mineral/Rock Overview

<https://people.wou.edu/~taylors/g202/202rkmin.pdf>

rock
mineral
element
compound
atom
nucleus
electron
proton
neutron
mineral properties
crystal form
luster
color
granite
basalt
~~obsidian~~
sandstone
shale

streak
hardness
cleavage
fracture
specific gravity
rock forming minerals
silicates
carbonates
oxides
sulfates
halides
rock cycle
igneous
metamorphic
sedimentary
magma / lava
limestone
siltstone
~~gneiss~~
~~slate~~
~~marble~~

fast-cooling lava
slow-cooling magma
two-phase cooling
extrusive / lava
intrusive / magma
weathering
sediment
sediment transport
sediment burial
lithification
fossil
metamorphic
foliation
non-foliated
heat-pressure-chemical

quartz
feldspar
muscovite
biotite

Plate Tectonics Overview

<https://people.wou.edu/~taylors/g202/202tect.pdf>

Continental Drift
Plate Boundaries

Convergent
Divergent
Transform
Spreading Center
Subduction Zone
Transform Fault

Volcanic Arc
Mountain Building
Mid-oceanic ridge
Basaltic Oceanic Crust
Granitic Continental Crust

Weathering /Sediment

<https://people.wou.edu/~taylors/g202/202sedrk.pdf>

Weathering

Erosion

Sediment

Agents of Transport

Wind

Water

Ice

Gravity

Physical Weathering

rk fragmentation

frost wedging

unloading/release

Thermal Expansion

Root Wedging

Animal Burrowing

Chemical Weathering

carbon dioxide

carbonic acid

water

Clay (size / mineral)

bedrock

soil

regolith

colluvium

alluvium

drift

lacustrine

anthropogenic

aeolian

clay

mass wasting

Sedimentary Rocks

<https://people.wou.edu/~taylors/g202/202sedrk.pdf>

weathering

sediment

erosion

lithification

compaction

cementation

Sed. Rock types

Detrital

Biochemical

chemical

sediment size fractions

gravel

sand

silt

clay

grain shape

grain sorting

rock types

sandstone

conglomerate

shale

limestone

evaporites

mudstone

rock salt

crystalline vs. microcrystalline

coal

clastic / nonclastic

marine

nonmarine

fluvial

lacustrine

glacial

Questions for Thought

How do the three ultimate driving forces relate to anything that we've covered since the beginning of the term?

What is the elemental composition of the Earth's crust? atmosphere?

What is the difference between a rock and mineral? Can you sketch the rock cycle yet?

What is the controlling factor of mineral properties? Why are they different?

What is the crust anyhow? Can you draw a diagram of the interior of the Earth (core, mantle, asthenosphere, crust)?

What factors influence how fast a rock will weather? Do all rocks weather at the same rate?

What is the difference between weathering and erosion?

What are the two meanings of the word "clay"?

What do rocks inherently decompose? Why are clay minerals stable at the Earth's surface?

What is the sedimentary process from start to finish?

How does transport energy relate to grain size of deposits? (e.g. would you find boulders in the deep ocean?)

What are the basic marine and nonmarine sedimentary environments?

What are sedimentary structures and how are they used to reconstruct sedimentary environments?

What type of environment do the various sed. rock types form? e.g. sandstone, conglomerate, evaporites, coal, mudcracks, limestone, etc. where would these rocks form at the earth's surface?

How do rocks physically and chemically weather? What are some of the specific processes?

How do sediments accumulate over time? How is time recorded in the rock record?

2. Lab Skills to Work On

Review Pre-Lab Questions and Key Words

Applying the scientific method

basic metric / english unit conversion

graphing

drawing sketch maps and cross-sections

Identifying basic mineral properties

 which minerals / rocks fizz?

 metallic vs. nonmetallic

 light vs. dark colored

 1 or 3 directions of cleavage

can you do a basic mineral hardness test?

Could you identify an igneous, sedimentary vs. metamorphic rock?

what about the three diff. types of sed. rocks?

Can you estimate: grainsize? sorting? grading? angularity?

Associating a specific rock type to a possible sedimentary environment?

How does transport energy relate to grain size of deposits? (e.g. would you find boulders in the deep ocean?)

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