

## ES202 Quiz 2 Online Quiz Logistics / Updated Study Guide (updated Winter 2024)

**Quiz Logistics:** Quiz 2 will occur on **Wednesday March 13, 2024**, 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.**

### Class Notes

- Class Notes - Overview of Topographic Maps  
<https://people.wou.edu/~taylors/g202/topomaps.pdf>
- Class Notes - Introduction to Landscape Analysis  
[https://people.wou.edu/~taylors/g202/landscape\\_analysis.pdf](https://people.wou.edu/~taylors/g202/landscape_analysis.pdf)
- Class Notes - Soils and Mass Wasting  
<https://people.wou.edu/~taylors/g202/soilmass.pdf>
- Class Notes - Hydrologic Cycle  
<https://people.wou.edu/~taylors/g202/hydro.pdf>
- Class Notes - Rivers and Fluvial Systems  
<https://people.wou.edu/~taylors/g202/rivers.pdf>
- Class Notes - Groundwater / Karst Processes  
<https://people.wou.edu/~taylors/g202/gwkrst.pdf>
- Class Notes - Glacial Processes and Climate Change  
<https://people.wou.edu/~taylors/g202/glacier.pdf>
- ~~• Class Notes - Desert Processes and Landforms  
<https://people.wou.edu/~taylors/g202/desert.pdf>~~

### Review Questions from Homework Assignments:

- 5-2. Weathering and Mass Wasting Video Review Exercise (Earth Revealed ~50 min)  
[https://people.wou.edu/~taylors/g202/video\\_ex\\_masswaste.pdf](https://people.wou.edu/~taylors/g202/video_ex_masswaste.pdf)
- 6-2. Rivers Part 1 Video Review Exercise: Erosion and Depositions (Earth Revealed ~25 min)  
[https://people.wou.edu/~taylors/g202/Video\\_Exercise\\_Earth\\_Revealed\\_River\\_Processes\\_Fluvial\\_Part1.pdf](https://people.wou.edu/~taylors/g202/Video_Exercise_Earth_Revealed_River_Processes_Fluvial_Part1.pdf)

- 6-3. Rivers Part 2 Video Review Exercise: Landscape Evolution (Earth Revealed ~25 min)

[https://people.wou.edu/~taylors/g202/video\\_ex\\_rivers\\_running\\_water.pdf](https://people.wou.edu/~taylors/g202/video_ex_rivers_running_water.pdf)

- 7-2. Groundwater Video Review Exercise (Earth Revealed)

[https://people.wou.edu/~taylors/g202/groundwater\\_video\\_exercise.pdf](https://people.wou.edu/~taylors/g202/groundwater_video_exercise.pdf)

- 7-3. Pre-Lab Rivers and Fluvial Processes

[https://people.wou.edu/~taylors/g202/Pre-Lab6\\_rivers.pdf](https://people.wou.edu/~taylors/g202/Pre-Lab6_rivers.pdf)

- 8-2. Glaciers Video Review Exercise (Earth Revealed ~25 min)

[https://people.wou.edu/~taylors/g202/video\\_ex\\_glaciers\\_earth\\_revealed.pdf](https://people.wou.edu/~taylors/g202/video_ex_glaciers_earth_revealed.pdf)

- 8-3. Reading Review Questions - Global Climate Change

[https://people.wou.edu/~taylors/g202/Climate\\_Change\\_Review\\_Questions.docx](https://people.wou.edu/~taylors/g202/Climate_Change_Review_Questions.docx)

- ~~• 9-2. Deserts and Wind Video Review Exercise (Earth Revealed ~25 min)~~

~~[https://people.wou.edu/~taylors/g202/desert\\_video\\_ex.pdf](https://people.wou.edu/~taylors/g202/desert_video_ex.pdf)~~

- ~~• 9-3. Pre-Lab Deserts Key Word Review Exercise~~

~~[https://people.wou.edu/~taylors/g202/Pre-Lab9\\_deserts.pdf](https://people.wou.edu/~taylors/g202/Pre-Lab9_deserts.pdf)~~

### **Canvas Online Practice Quizzes**

- Task 5-1. Canvas Online Practice Quiz Mass Wasting
- Task 6-1. Canvas Online Practice Quiz Rivers
- Task 7-1. Canvas Online Practice Quiz Groundwater
- Task 8-1. Canvas Online Practice Quiz Glaciers
- Task 9-1. Canvas Online Practice Quiz Deserts

### **Lab Exercises**

- 5-5 Lab Exercise: Introduction to Topographic Maps (Complete Part 1 Only)
- In-Class Topographic Map Group Practice Exercises
- 6-4. Additional Topographic Map Exercise (stream gradient analysis)
- ~~• 7-4. Rivers Lab Exercise (Part 1 Only)~~

## KEY WORDS

### *Topo Map Review*

topographic maps  
north arrow  
magnetic declination  
map scale  
fractional scale  
graphical scale  
longitude latitude  
township-range-section  
equator  
prime meridian  
parallels  
angular measurement  
7.5 min quadrangle  
contour interval  
index contour  
law of V's / streams  
air photos  
stereovision

### *Landscape Analysis*

Four Criteria:  
Landform  
Material  
Age  
Process  
Bedrock vs. regolith  
Wind-water-ice-gravity  
Upland vs. Valley bottom  
Hillslope  
Active Channel  
Floodplain  
Terrace

### *Soil/Mass Wasting*

bedrock  
soil  
regolith  
colluvium  
alluvium  
drift  
lacustrine  
anthropogenic  
aeolian

clay  
mass wasting  
slope gradient  
angle of repose  
creep  
slide  
flow  
debris flow  
mud flow  
landslide  
debris slide  
solifluction  
slump  
rock fall

### *Rivers*

Rivers / fluvial  
stream gradient  
channel  
floodplain  
oxbow lake  
meandering  
levees  
cutoff  
cutbank  
floodplain  
terrace  
stream gradient  
bedload  
suspended load  
dissolved load  
braided  
straight  
normal discharge  
flood discharge  
capacity vs. competence  
dendritic  
trellis  
radial  
alluvial fans  
deltas  
base level  
watershed  
drainage divide

### *Hydrologic Cycle*

hydrologic cycle

precipitation  
evaporation  
advection  
convection  
infiltration  
evapotranspiration  
condensation  
vegetative interception  
runoff  
soil moisture  
ground water  
surface water  
rivers  
lakes  
oceans  
atmospheric moisture  
glaciers / ice budget  
biologic water

### *Glaciers*

glaciers  
snowfields  
snow-firn-ice  
global ice budget  
alpine glaciers  
continental glaciers  
cirque glaciers  
piedmont glaciers  
ice sheets  
ice shelf  
temperate glacier  
polar glacier  
basal slip  
internal ice flow  
crevasse / fracture  
transverse crevasse  
longitudinal crevasse  
glacial surging  
snow line  
zone of accumulation  
zone of ablation  
ice advance  
ice retreat  
static equilibrium  
glacial erosion  
plucking  
abrasion  
rock flour

glacial striations  
u-shape valleys  
v-shape valleys  
hanging valleys  
paternoster lakes  
cirque  
tarn  
fjords  
aretes  
horn  
col  
roche moutenee  
glacial pavement  
drift  
till  
outwash  
sorted / stratified  
unsorted / unstratified  
moraine  
lateral moraine  
medial moraine  
end moraine  
terminal moraine  
recessional moraine  
ground moraine  
glacial erratics  
outwash plain

kettles  
drumlins  
eskers  
kames  
glacial climate  
interglacial climate  
climate change  
Pleistocene glaciation  
Oxygen Isotope record  
Laurentide Ice Sheet  
Glacial / Pluvial Lakes  
Milankovitch Theory

### ~~Deserts~~

~~arid climate~~  
~~desert~~  
~~semi arid~~  
~~polar deserts~~  
~~sub-tropical deserts~~  
~~orographic / rain shadow effect~~  
~~Playa lakes~~  
~~salt flats~~  
~~pluvial lakes~~  
~~differential erosion~~  
~~butte~~  
~~mesa~~

~~Inselbergs~~  
~~pediments~~  
~~badlands~~  
~~piedmont~~  
~~mountain front~~  
~~alluvial fan~~  
~~bajada~~  
~~bolson~~  
~~closed drainage~~  
~~arroyo~~  
~~aeolian~~  
~~deflation~~  
~~blow-outs~~  
~~ventifacts~~  
~~desert pavement~~  
~~desert varnish~~  
~~sand dune~~  
~~erg~~  
~~dune morphology~~  
~~wind direction~~  
~~barchan dune~~  
~~parabolic dune~~  
~~transverse dune~~  
~~longitudinal dune~~  
~~loess~~  
~~desertification~~

## Questions for Thought

Do you know how to deal with maps?... profiles, map reading, directions, topography, contour lines, elevations?  
Can you calculate a stream gradient? I.D. a channel pattern and drainage pattern.  
What about simple unit conversions from English to Metric?  
Map Scale and Distance Calculations: graphical scale, verbal scale, fractional scale.  
What's the difference between a floodplain and a terrace?  
What are the diagnostic landscape features associated with river environments? Can you identify them on a block diagram by name?  
What are drainage divides and how are watersheds defined?  
What are the hazards associated with mass wasting and rivers?  
Can you draw, label, and discuss the hydrologic cycle in detail?  
~~Draw a matrix summary of the landslide classification system based on material and process.~~  
Can you draw / sketch showing the difference between an unconfined aquifer and a confined aquifer.  
~~Can you label a block diagram showing the primary features of karst cave limestone landscapes.~~  
How do glaciers and glacial ice form?  
Why do glaciers flow?  
How does the global ice budget relate to sea level / vice versa? How does it relate to climate?  
What are the physical differences between a continental and alpine glacier?  
What are the erosional and depositional effects of glaciation at the earth's surface?  
How does a fluvial-dominated landscape compare to a glacial-dominated landscape?  
What are the diagnostic landforms associated with alpine glaciers vs. continental glaciers? Can you identify them on a block diagram by name?  
How has glaciation affected North America over the past 2 million years?  
How are glaciations related to sea level fluctuations?  
~~What are the precipitation / vegetative characteristics of a "desert"? Are all deserts hot?~~  
~~How are landforms in a desert different from humid climates and why?~~

## 2. Lab Skills to Work On

Locate positions on a map?  
I.D. contour interval, hills, valleys, etc?  
Calculate stream gradient?  
recognize steep vs. gentle topography?  
Determine azimuth compass bearings between two points?  
Location by longitude and latitude  
Identify basic river and hillslope features on a topographic map: e.g. floodplain, channel, oxbow, terrace, braided river, meandering river, hillslope, alluvial fan, ridge top, valley bottom  
Drawing contour lines in general (interpolating points of constant elevation).  
Calculating gradients from maps.  
~~Calculating groundwater gradients.~~  
Measuring distances, directions, and scales on a topographic map.  
Reading contour lines / elevations from a topographic map.  
Determining gradients from a topographic map (slope gradients, stream gradients).  
Calculating basic rates of process (change in process per unit time: e.g. rate of delta growth, rate of coastal erosion, rate of uplift, etc.)  
~~Interpreting aerial photographs / seeing in stereoscopic vision.~~  
Identifying actual landforms from slides / photos.  
Identifying landforms and geomorphic processes on topographic maps (e.g. glacial forms, karst forms, river forms, desert forms, etc.).

~~Determining the direction of ice flow from drumlins, or from terminal / end moraine patterns.~~

Can you label and identify landforms from different climates on a block model?

Can you identify landforms from slides / photographs?