**ES322 Geomorphology Bierman and Montgomery Text Review Questions**

***Chapter 8 Coastal Geomorphology***

Review read the textbook posted on the ES322 class web site / moodle page and answer the following questions. Use internet web search tools as needed, include sketches, equations or screen-capture images as required to help support you answers with visuals.

1. What percentage of planet Earth is covered in ocean water and why are continental margins important geomorphic environments for humans.
2. What is the primary geomorphic process that occurs where rivers enter ocean basins? Draw a sketch or image capture, with labels, showing the transition of non-marine to off-shore marine features associated with continental margins.
3. Define and discuss the difference between the concept of active vs. passive continental margins. Provide an real-world example of each. What type of margin is associated with the state of Oregon and the Pacific Northwest?
4. Define and discuss the differences between the concepts of an emergent coastline vs. submergent coastline.
5. What two factors control the relative elevation of sea level, and the history of sea level change at any given time, at any given location, on planet Earth.
6. Define the term “eustatic” sea level. Explain how global glaciation cycles control eustatic sea level change over geologic time.
7. True or False: the average salinity of sea water is 35 parts per thousand.
8. True or False: cold, dense, more saline sea water tends to rise to the top of the ocean; while warm, less dense, less saline sea water tends to sink to the bottom of the ocean.
9. Provide a 1 to 2 sentence explanation of the drivers that control daily tidal fluctuations along coastal margins of continents.
10. Provide a 1 to 2 sentence explanation of the drivers that control wave generation along coastal margins of continents.
11. Examine Figure 8.5, write and explain the equation for wave base (depth) vs. wave length.
12. True or False: long wave length waves have a smaller depth to wave base compared to short wave length waves.
13. True or False: the breaker and swash zone of waves at the beach is a very high energy zone prone to erosion and people surfing.
14. Draw a sketch or provide an image capture, illustrating the concept of longshore drift and sediment transport.
15. Describe the difference and functions related to Jetty vs. Groin.
16. Examine Figure 8.7. Compare and contrast the difference between emergent, erosional coastal zones vs. depositional coastal zones vs. drowned or submergent coastal zones. Provide a list of landforms characteristic of each, with a labeled list of features.
17. What is a “pocket beach”. Provide a definition and a sketch.
18. Define the terms Wave-cut Platform and Wave-cut notch, provide a definition and sketch of each.
19. What is a barrier island and what are the conditions that lead to geomorphic development at any location. Provide an example region that is characterized by barrier islands in the U.S.
20. Define, compare and contrast the similarities and differences between the concepts of estuaries vs. fjords.
21. List three primary characteristics associated with deltas.
22. Draw and label a cross-sectional sketch from onshore non-marine to offshore marine, showing the relative positions and depths of the following submarine depositional landforms: continental shelf, continental rise, continental slope, deep abyssal plain, submarine fan, mid-ocean ridge, subduction trench.
23. True or False: reefs are comprised of marine organisms and commonly form in cold water environments associated with the Arctic ocean.
24. What is your favorite landscape element of the Oregon coast and what do you believe to be the most important environmental issue associated with coastal living in Oregon.