

## **NS481/581 Geomorphology Module Week 1 Take-Home Exam** (Note: this is 2 pages)

Note: All week 1 notes, data, and related readings are posted on the Geomorphology module web site ([www.wou.edu/taylor](http://www.wou.edu/taylor) - following links to NS481/581). The majority of this material was also distributed in hard copy during week 1 class periods. Use all of your week 1 / geomorphology resources to answer the following exam questions.

Instructions: Your take-home exam answers should be well organized, well written, concise, and neatly word-processed. Remember this is a competitive sport and your answers / presentation will graded in comparison to your student peers.

### **Part 1. Week 1 Review of Terms and Concepts**

#### **Required Question**

1-1. Write a summary of the physical setting of the Luckiamute watershed. Your answer should include the following items (organized in the listed order): location, physiographic boundaries, principal tributaries, climate (weather patterns, precipitation, temperature), geologic setting (plate tectonics, bedrock geology), geomorphic setting (types of landforms, surficial deposits, and processes), general soils types / distribution, and general vegetative types / distribution. **(Note: this should be a significant effort!! Hint: shoot for about 5-6 sentence paragraphs for each item, feel free to cut and paste any graphics you can find to support your answers)**

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#### **Choose One of the Following Two Questions**

1-2. Explain in detail the concept of a GIS. What is it? What are the critical components? Give examples of uses.

1-3. List and discuss the 4 critical components of the Taylor (1999) geomorphic mapping methodology in unglaciated mountainous terrains.

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## Required Question

1-4. Define and discuss the following terms (Shoot for 2-4 sentences, sketches are required)

Diamicton  
Clast Weathering Rind  
Colluvium  
Alluvium  
Residuum  
Discharge  
Terrace  
Floodplain  
Hollow  
Side Slope  
Nose

## Part 2. Link Assignment to NSSI Field Botany Week 2

Visit the NSSI Geomorphology Module website ("Class Reading Assignment" Section) and download the following papers:

**Geomorphology and Ecosystems (Swanson, 1980)**  
**Landscape Patterns and Vegetative Disturbance (Swanson, 1990)**

Read through the papers carefully and consider the following questions:

## Required Question

2-1. Discuss in detail, and provide examples, of how geomorphic processes and landforms generally effect the distribution of flora in the Pacific Northwest. Divide your discussion into (i) upland processes / landforms and (ii) valley-bottom processes / landforms (**note: this should be a significant effort!**).

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## Optional Question (Extra Credit)

2-2. Hypothesize and ponder how vegetative patterns could be used in the geomorphic mapping technique of Taylor (1999). Provide examples of how vegetation types and distributions could help in mapping the landscape according to age, landform, material, and process. Focus your discussion on the types of geomorphic map features we observed on our week 1 field trips.