

UHS Physical Geology SYLLABUS

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(NOTE: The Chapter numbers refer to the course text Essentials of Geology, Prentice Hall, 8th edition)

Chapter 1: An Introduction to Geology

1. The science of geology
2. Geologic time
3. The nature of scientific Inquiry
4. A view of Earth
5. Earth as a system
6. The Rock Cycle
7. Earth's internal structure
8. Dynamic Earth

Chapter 2: Minerals: Building Blocks of Rocks

1. Minerals: the building blocks of rocks
2. Composition of Minerals
3. Physical properties of minerals
4. Mineral groups
5. Mineral resources

Chapter 3: Igneous Rocks

1. Magma: the parent material of igneous rocks
2. Igneous textures
3. Igneous compositions
4. Origin of magma
5. How magmas evolve
6. Mineral resources and igneous processes

Chapter 4: Volcanoes & Other Igneous Activity

1. Volcanic Eruptions
2. Materials extruded during an eruption
3. Volcanoes
4. Other volcanic landforms
5. Intrusive igneous activity
6. Plate tectonics and igneous activity

Chapter 5: Weathering & Soils

1. Earth's external processes
2. Weathering
3. Soil
4. Weathering and ore deposits

Chapter 6: Sedimentary Rocks

1. What is a sedimentary rock?
2. Turning sediment into sedimentary rock
3. Types of sedimentary rocks
4. Detrital sedimentary rocks
5. Chemical sedimentary rocks
6. Classification of sedimentary rocks
7. Sedimentary environments
8. Sedimentary structures
9. Nonmetallic mineral resources from sedimentary rocks
10. Energy resources from sedimentary rocks

Chapter 7: Metamorphic Rocks

1. Metamorphism
2. Agents of metamorphism
3. Metamorphic textures
4. Common metamorphic rocks
5. Metamorphic environments
6. Metamorphic zones
- 7.

Chapter 15: Earthquakes and Earth's Interior

1. What is an earthquake?
2. San Andreas Fault: an active earthquake zone
3. Seismology
4. Locating the source of earthquakes
5. Measuring the size of earthquakes
6. Earthquake destruction
7. Can earthquakes be predicted?
8. Seismic waves and Earth's structure
9. Discovering Earth's major layers
10. Discovering Earth's composition

Chapter 16: Plate Tectonics

1. Continental drift: an idea before its time
2. The great debate
3. Plate tectonics: a modern version of an old idea
4. Divergent plate boundaries
5. Convergent plate boundaries
6. Transform fault boundaries
7. Testing the plate tectonics model
8. Measuring plate motion
9. The driving mechanism

Chapter 17: Mountain Building

1. Deformation
2. Folds
3. Faults
4. Joints
5. Mountain belts
6. Mountain building at convergent boundaries
7. Isostasy and continental uplift

Chapter 18: Geologic Time

1. Two types of dates used in determining geological ages
2. Principles and rules of relative dating
3. Fossils: evidence of past life
4. Dating with radioactivity
5. Geologic time scale

Chapter 19: Earth History - A Brief Summary

1. Early evolution of Earth
2. Earth's atmosphere evolves
3. Earth's history