

The Physical Earth schedule, Fall 2012

Last updated: Wednesday August 15 2012

<i>Date</i>	<i>Events</i>
—Week 1—	
Tu 28 Aug	Course introduction and background - why study geology?
We 29 Aug	<i>Lab:</i> No lab
Th 30 Aug	Origin of our Earth and solar system <i>Readings:</i> Marshak Ch. 1
Fr 31 Aug	What makes the Earth so unique? <i>Readings:</i> Marshak Ch. 2; Interlude C p. 257
—Week 2—	
Tu 04 Sep	Earth's building blocks: minerals <i>Readings:</i> Marshak Ch. 5
We 05 Sep	<i>Lab:</i> Minerals
Th 06 Sep	The formation of igneous rocks <i>Readings:</i> Marshak Ch. 6; 6.1-6.4
Fr 07 Sep	Igneous environments <i>Readings:</i> Marshak Ch. 6; 6.5-6.9
—Week 3—	
Tu 11 Sep	From rocks to sediment: weathering <i>Readings:</i> Marshak Ch. 7; 7.1-7.2
We 12 Sep	<i>Lab:</i> Igneous rocks
Th 13 Sep	No class: Regional Geology trip
Fr 14 Sep	No class: Regional Geology trip
—Week 4—	
Tu 18 Sep	From sediments to sedimentary rocks <i>Readings:</i> Marshak Ch. 7; 7.4-7.11
We 19 Sep	<i>Lab:</i> Sedimentary rocks
Th 20 Sep	Soils and soil formation <i>Readings:</i> Marshak Ch. 7; 7.3
Fr 21 Sep	Exam 1
—Week 5—	
Tu 25 Sep	Metamorphism and metamorphic rocks <i>Readings:</i> Marshak Ch. 8
We 26 Sep	<i>Lab:</i> Metamorphic rocks
Th 27 Sep	Alfred Wegener and the theory of continental drift <i>Readings:</i> Marshak Ch. 3
Fr 28 Sep	New evidence for mobile continents <i>Readings:</i> Marshak Interlude A p. 77
—Week 6—	
Tu 02 Oct	Greg Retallack, OSU: Why the fish left the water <i>Readings:</i> Retallack, 2011
We 03 Oct	Field Trip: Wallula Gap

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Th 04 Oct	Plate tectonics and plate boundaries <i>Readings:</i> Marshak Ch. 4; 4.1-4.5
Fr 05 Oct	Hotspots, triple junctions, and plate mechanics <i>Readings:</i> Marshak Ch. 4; 4.6-4.10
—Week 7—	
Tu 09 Oct	October Break: no lab
We 10 Oct	<i>Lab:</i> Plate tectonics
Th 11 Oct	Meet in 116 to complete the plate tectonics lab
Fr 12 Oct	Seismic waves and earthquakes <i>Readings:</i> Marshak Ch. 10
—Week 8—	
Tu 16 Oct	Volcanoes and volcanic eruptions <i>Readings:</i> Marshak Ch. 9
We 17 Oct	<i>Lab:</i> Topographic maps
Th 18 Oct	Mountain building and crustal deformation <i>Readings:</i> Marshak Ch. 11
Fr 19 Oct	Exam 2
—Week 9—	
Tu 23 Oct	Mass wasting <i>Readings:</i> Marshak Ch. 16
We 24 Oct	<i>Lab:</i> Structure
Th 25 Oct	The hydrologic cycle and river systems <i>Readings:</i> Marshak Interlude F p. 544
Fr 26 Oct	River geomorphology and evolution <i>Readings:</i> Marshak Ch. 17; 17.1-17.7
—Week 10—	
Tu 30 Oct	Groundwater and floods <i>Readings:</i> Marshak Ch. 17; 17.8, 19; 19.1-19.5
We 31 Oct	<i>Lab:</i> Stream table
Th 01 Nov	Caves, geysers, and hot springs <i>Readings:</i> Marshak Ch. 19; 19.6-19.8
Fr 02 Nov	The atmosphere and storms <i>Readings:</i> Marshak Ch. 20; 20.1-20.3, 20.5-20.6
—Week 11—	
Tu 06 Nov	No class: Nick at GSA
We 07 Nov	No class: Nick at GSA
Th 08 Nov	Ocean circulation and current climate <i>Readings:</i> Marshak Ch. 20; 20.4 and 20.7
Fr 09 Nov	Dynamic coasts and coastal landforms <i>Readings:</i> Marshak Ch. 18
—Week 12—	
Tu 13 Nov	Dryland geology <i>Readings:</i> Marshak Ch. 21

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We 14 Nov	Field trip: Burlingame Canyon
Th 15 Nov	Exam 3
Fr 16 Nov	Reconstruction of geologic history <i>Readings: Marshak Ch. 12; 12.1-12.7</i>
November 17-25: Thanksgiving Break	
—Week 13—	
Tu 27 Nov	Absolute dating and the age of the Earth <i>Readings: Marshak Ch. 12; 12.8-12.10</i>
We 28 Nov	<i>Lab: Geologic maps</i>
Th 29 Nov	Ice, glaciers, and periglacial landforms <i>Readings: Marshak Ch. 22; 22.1-22.6</i>
Fr 30 Nov	The Pleistocene ice age and global climate <i>Readings: Marshak Ch. 22; 22.7-22.9</i>
—Week 14—	
Tu 04 Dec	Energy resources: fossil fuels, nuclear, and solar <i>Readings: Marshak Ch. 14</i>
We 05 Dec	<i>Lab: No lab</i>
Th 06 Dec	Ore deposits and mining <i>Readings: Marshak Ch. 15</i>
Fr 07 Dec	Geology in the Pacific Northwest
—Week 15—	
Tu 11 Dec	Exam 4, 2-4 pm, Science 116