

Spring 2-1-2004

GEOL 226.01: Mineralogy and Petrology

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Geology 226 - Mineralogy and Petrology - Spring, 2004

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<u>Week</u>	<u>Lecture Topic and (Text Reading) see reference below</u>	<u>Lab Topic and Lab Manual Chapter</u>
1	The composition of the Earth's crust: consequences for rocks and minerals. Mineral names and classes. (Ch 1, 52-60). Crystal Chemistry (Ch 2).	Introduction to mineral identification methods: physical properties of minerals (60-66). Begin Set # 1: Native elements, sulfides, and sulphosalts (154-156)
2	Crystal Chemistry and Crystallography, (Ch 2)	Continue Set # 1
3	Rock-forming minerals: introduction to the silicates, olivine and other independent tetrahedra minerals (113-124)	Quiz on Set # 1 Begin Set # 2: Silicates - Independent tetrahedra, double tetrahedra, ring structures, single chains (113-134)
4	Pyroxenes and amphiboles (125-138)	Set # 2, con't
5	Micas and clay minerals (139-143)	Quiz on Set # 2. Begin Set # 3: Silicates - double chains, sheets, framework structures (134-147)
6	Quartz and feldspar (143-147)	Set # 3 con't
7	Feldspar, feldspathoids, and	Quiz on Set # 3.

	zeolites (144-147)	Begin Set # 4: Oxides and hydroxides, halides, carbonates, sulfates, phosphates (148-157)
8	MIDTERM EXAM Magma and Igneous Rocks (Chs 7, 8, and 9)	Quiz on Mineral Set # 4. Begin common igneous plutonic and volcanic rocks Sets # 5 and # 6
Week 9 is Spring Break		
10	Igneous Rocks con't (Chs 10 and 11)	Common plutonic and volcanic rocks Sets # 5 and # 6 con't
11	Igneous Rocks, con't. (Ch 12)	Common plutonic and volcanic rocks Sets # 5 and # 6 con't
12	Weathering, Sediment, and Sedimentary Rocks (Chs 13 and 14)	QUIZ ON Igneous rocks Sets # 5 and # 6; begin identification of sedimentary rocks Set # 7
13	Weathering, sediment, and sedimentary rocks con't	Sedimentary rocks Set # 7 con't

14	Metamorphism and metamorphic rocks (Chs 15 and 16)	Quiz on sedimentary rocks Set # 7; Begin identification of metamorphic rocks Set # 8
15	Metamorphism and metamorphic con't.	Final lab exam on all minerals and rocks

Text: Sen: Earth's Materials: Minerals and Rocks.

Additional resources: Klein: Manual of Mineral Science, 22nd Ed.; Raymond: Petrology, The Study of Igneous, Sedimentary, and Metamorphic Rocks 2nd Edition; Hyndman, Petrology of Igneous and Metamorphic Rocks, 2nd Ed., 1985.

Lab Manual: Sen: Earth's Materials: Minerals and Rocks (the textbook).

Please bring it to each lab meeting. You will need it for mineral identification work.

Grading: Approximately 2/3 from lecture exams and 1/3 from lab exams.

Office Hours: 11:30 AM and 3 PM Monday and Wednesday, or by appointment, or whenever I'm in my office or labs.

Final Exam: Wednesday, May 12th, 10:10 – 12:10; OR Thursday, May 13th, 10:10 – 12:10. We will decide which day and time during the semester.