**READING LIST**

**GEOLOGICAL SCIENCES 0050 – Mars, Moon, and the Earth**

Semester 1 2012-2013, MWF 2:00-2:50 PM, MacMillan Hall 115

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Office hours: Wed 3-5 PM or by appointment


Note: These texts are online only; URLs are provided (see Reading List posted on course web site), but not all link directly to the specific section cited.

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<tr>
<th>Date</th>
<th>Topic</th>
<th>Reading Assignment (see syllabus)</th>
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<td>ExP: Chapter 1 (The Solar System).</td>
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<td>9/7</td>
<td>II. 1. Earth - Provinces</td>
<td>EDS: Chapter 1, Planet Earth, p. 15-25.</td>
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<td>ExP: Chapter 8.4 (Surface of the Earth).</td>
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<td>EDS: Chapter 18, Seismicity &amp; the Earth's Interior, p. 508-534.</td>
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<td>ExP: Chapters 2.4 (Internal Differentiation of the Planets &amp; section on Planetary Lithospheres)</td>
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<td>ExP: Chapter 8.3 (Internal Structure of the Earth).</td>
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<td>EDS: Chapter 17, Plate Tectonics, p. 480-506.</td>
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<td>EDS: Chapter 6, Metamorphic Rocks, p. 144-155, 161-164.</td>
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<td>ExP: Chapter 8.5 (Earth’s Tectonic System).</td>
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<td>EDS: Chapter 19, Divergent Plate Boundaries, p. 536-562.</td>
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II. 4. Earth - Atmosphere and Hydrosphere
EDS: Chapter 10, Weathering, p. 248-257.
EDS: Chapter 12, River Systems, p. 296-302.
ExP: Chapter 2 (Planetary Atmospheres and Hydrospheres & Conclusions).
ExP: Chapter 8.7 (Earth’s Hydrologic System).

II. 5, 6. Earth - History and Summary
EDS: Chapter 8, Geologic Time, p. 188-211.
EDS: Chapter 19, History of Plate Movement, p. 569-571.
ExP: Chapter 8.8-8.9 (Geologic History of the Earth & Conclusions).

III. 1-3. Moon - Characteristics, Provinces, Interior
EDS: Chapter 25, Other Planets, p. 724-733.
ExP: Chapter 4.0-4.3, 4.9 (Introduction through Major Geologic Provinces and Internal Structure of the Moon).

III. 4. a, b. Moon - Craters and Volcanism
ExP: Chapter 4.4-4.6 (Impact Craters, Lunar Time Scale, Volcanic Features).

III. 4. c -7. Moon: Tectonics, Atmosphere, Time History and Summary
ExP: Chapter 4.7, 4.8, 4.10, 4.11 (Tectonic Features, Lunar Rocks, Geologic History of the Moon, Conclusions).

IV. Mercury
EDS: Chapter 25, p. 732-734.
ExP: Chapter 5 (Mercury).

EXAMINATION: FRIDAY, OCTOBER 12th, 2012

10/15 Earth-Moon-Mercury Summary – Review Notes

10/17 Apollo 15 Commander David R. Scott: Apollo 15 – Mission to the Hadley-Apennine Region of the Moon.
10/19-22  V. 1, 2, 3, 4.a. Mars – Characteristics, Provinces and Impact Craters
EDS: Chapter 25, p. 734-738.
ExP: Chapter 6.0-6.6 (Introduction through Internal Structure of Mars).

10/24  V. 4. b, c. Mars – Volcanism and Tectonics
ExP: Chapter 6.9-6.11 (Mass Movement through Martian Tectonic Features).

EDS: Chapter 12, River Systems, p. 296-302.
EDS: Chapter 13, Groundwater, p. 336-347.
ExP: Chapter 6.7 (Water on Mars: through Ground Ice).

10/31  V. 6, 7. Life on Mars Yesterday and Today?
Read Handouts and Visit Web Pages.
V. 8. Summary

11/2-5  VI. 1-3. Venus - Exploration History, Provinces, Interior
EDS: Chapter 25, p. 739-740.
ExP: Chapter 7.0-7.7 (Venus: Introduction through Internal Structure).

11/7-12  VI. 4. b. Venus – Volcanism, Tectonism, Evolution, and Conclusions
ExP: Chapter 7.8 (Venus: Volcanic Features).
ExP: Chapter 7.9 (Venus: Tectonic Features).
ExP: Chapter 7.10, 7.11(Venus: Geologic Evolution & Conclusions).

11/14  Terrestrial Planets Summary
EDS: Chapter 25, p. 740.
ExP: Chapter 15 (Comparison of the Planets).

11/16-19  VII. Comets, Meteorites and Asteroids
EDS: Chapter 25, p. 751-753.
ExP: Chapter 3 (Meteorites and Asteroids: Small Bodies of the Inner Solar System); see ExPlanets Readings on GEOL 0050 site.
ExP: Chapter 14 (Comets and Small Bodies of the Outer Solar System).
Asteroids: http://en.wikipedia.org/wiki/Asteroid
Meteorites: http://en.wikipedia.org/wiki/Meteorite

11/26-12/3  VIII. The Outer Planets and Their Satellites
EDS: Chapter 25, p. 742-750.
ExP: Chapters 9 (The Jupiter System).
Pluto and Charon: http://en.wikipedia.org/wiki/Pluto,
http://en.wikipedia.org/wiki/Charon_(moon)

IX. SUMMARY
EDS: Chapter 25, p. 753-758.
ExP: Chapter 15 (Comparison of the Planets - review).

Reading Period Exercise 6 based on a set of readings. Details to be discussed in class.
Will count 50% toward final exam credit.

FINAL EXAMINATION: THURSDAY, DECEMBER 20, 2012, 2 PM