**GEOLOGY 240 LXG EARTHQUAKES SPRING 2016 SAMMIS**

| DATE | SUBJECT | LABORATORY | READINGS |
|---|---|---|---|
| Jan. 12 | The Dynamic Earth and Geological Time Scale | NO LAB THIS WEEK | Bolt pp. 28 - 39<br>Bolt Appendix D |
| Jan. 14 | Where Earthquakes Occur and Why -- Plate Tectonics | | Bolt Ch. 7 |
| Jan. 19 | Plate Tectonics - The Evidence | NO LAB THIS WEEK | Bolt Ch. 7 |
| Jan. 21 | Plate Tectonics - The Mechanism Sea-Floor Spreading | | |
| Jan. 26 | Faults and Stress in the Earth | Lab Orientation / Plate Boundaries | Bolt Ch. 3 |
| Jan. 28 | Earthquake Source Mechanisms from Seismic Observations | | Bolt Ch. 4<br>Bolt Appendix F |
| Feb. 2 | Tectonics of Western North America | Paleomagnitism and Plate Tectonics | |
| Feb. 4 | Evolution of the San Andreas Fault System | | |
| Feb. 9 | Earthquakes, Volcanoes and Tsunamis | Stress and Faulting | Bolt Ch. 9<br>Bolt Appendix H<br>Bolt pp. 19-22 |
| Feb. 11 | Nature of Seismic Waves | | Bolt Appendix I |
| Feb. 16 | Reflection and Refraction of Seismic Waves | Fault Plane Solutions | Bolt pp. 23-24 |
| Feb. 18 | Using Seismic Waves to Study the Earth's Interior | | Bolt Ch. 6 |
| Feb. 23 | MIDTERM I | California Faults | |
| Feb. 25 | Interpreting Seismograms | | Bolt Ch. 5 |
| March 1 | Monitoring Earthquakes and Seismic Instruments | Reflection and Refraction of Waves (Part 1) | Bolt Ch. 5 |
| March 3 | Locating Earthquakes | | Bolt pp. 116-120 |
| March 8 | Measuring the Size of Earthquakes | Reflection and Refraction of Waves (Part 2) | Bolt Ch. 8<br>Bolt Appendix G<br>Bolt Appendix C |
| March 10 | Foreshocks, Mainshocks, Aftershocks, and Earthquake Swarms | | |

| DATE | SUBJECT | LABORATORY | READINGS |
|---|---|---|---|
| *MARCH 14 – 18* | | *SPRING BREAK* | |
| March 22 | Earthquake Statistics | Seismic Phases and Ray Paths in the Earth's Interior | |
| March. 24 | Moonquakes -Other Tectonic Styles in the Solar System | | Bolt pp. 47-51 |
| March 29 | Important Earthquakes I Case Studies | Locating Earthquakes and Estimating their Intensity | Bolt Appendix A |
| March 31 | Important Earthquakes II Case Studies | | Bolt Appendix B |
| April 5 | MIDTERM II | Magnitude and Energy of Earthquakes | |
| April 7 | The Earthquake Source How the Earth Fractures | | |
| April 12 | Earthquake Prediction I | Paleoseismicity | Bolt Ch. 10 |
| April 14 | Earthquake Prediction II | | |
| April 19 | Stimulation of Earthquakes by water – The Feasibility of Earthquake Control. | Seismic Safety | Bolt pp. 90-101 |
| April 21 | Earthquake Resistant Design | | Bolt Ch. 12 |
| April 26 | Personal Safety before, during, and after an earthquake | Review for Final | Bolt Ch. 11 |
| April 28 | Course Summary | | |

**GEOLOGY 240 LXG EARTHQUAKES** **SPRING 2016** **SAMMIS**

Required Text : Bolt. *Earthquakes: 2006 Centennial Update (1906 Big One)*

Midterms : Feb. 23 and April 5.

Final : May 10 11 am - 1 pm (as per University schedule)

Lab Breakdown :

| | |
|---|---|
| Best 10 Exercises …… | 100 pts. (10 pts. each) |
| Best 10 Quizzes …… | 150 pts. (15 pts. each) |
| | --- |
| | 250 pts. total possible |

Course Breakdown :

| | |
|---|---|
| Lab …… | 250 pts. |
| Class Quizes …….. | 25 pts |
| Midterm I ……. | 125 pts. |
| Midterm II …… | 125 pts |
| Final …….. | 250 pts. |
| | --- |
| Maximum achievable score ……. | 775 pts. |

Grading on a curve

Guarantees: 90%-100% = A
80% - 90% = B
70% - 80% = C
60% - 70% = D

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Office Hours directly following class on Tuesday and Thursday or by appointment.