Co-listed as ENDRG 2200.
Instructor: Prof. William White (wmw4@cornell.edu) 4112 Snee, 255-7466
   Office Hours: Tuesday, Wednesday 1:15-200 PM.
TA: Ashley Tibbets (akt34@cornell.edu) 4160 Snee
Meets: Tues., Thurs. 11:40-12:55 2146 Snee; Labs: Tues. 2:00-4:25 or Wed. 2:00-4:25 1146 Snee
Text: GEOS custom text, Pearson Prentice-Hall, EAS 2200 Lab Book; iClicker required.
   Register your iClicker at http://atcsupport.cit.cornell.edu/pollsrvc/.
Course Web Site: http://www.geo.cornell.edu/eas/education/course.descr/EAS220/
Grades based upon: 30% lab assignments, 35% from 2 prelims, 25% final exam, 10% iClicker lecture participation, quizzes, and assignments.
Academic Integrity Statement:
   The Cornell Code of Academic Integrity will be enforced. Students are encouraged to collaborate on lab assignments.

Schedule

Part I: Introduction and Origin of the Earth
   Week 1 Jan 23-27 Lab 1: Maps and Images
      Required Reading: Chapter 1: Origin of the Earth and Life pp 1-11
      Period 1 Introduction, Nature of Science, Geologic Time
      Period 2 Origin of the Earth

Part II: The Solid Earth
   Week 2 Jan 30-Feb 3 Lab 2: Minerals
      Required Reading: Chapters 2: Minerals
      Period 3 Earth Materials: Minerals
      Period 4 Earth Materials: Rocks, Water
   Week 3 Feb 6-10 Lab 3: Seismology
      Required Reading: Chapter 3: Earthquakes, Chapter 4: The Earth’s Interior
      Period 5 Geophysics: Seismic Waves. Gravity. and Structure of the Earth
   Week 4 Feb 13-17 Lab 4: Igneous Rocks
      Required Reading: Chapter 5: Plate Tectonics
      Period 7 Plate Tectonics: The Big Idea
      Period 8 Plate Tectonics
   Week 5 Feb 20-24 Lab 5: Metamorphic Rocks
      Required Reading: Chapter 6: Volcanoes, Chapter 7: Metamorphism
      Period 9 Volcanism
      Period 10 Metamorphism
   Week 6 Feb 27-Mar 2 Lab 6: Geologic Structures and Maps
The Earth System
Syllabus

Required Reading: Chapter 10: Earth Structures
- Period 11 Faulting, Folding & Mountain Building
- Period 12 March 1 Prelim Exam I

Part III: Earth’s Surface and Earth History

Required Reading: Chapter 8: Weathering, Chapter 9: Sedimentary Processes
- Week 7 Mar 5-9 Lab 7: Sedimentary Processes
  - Period 13 Nature as Sculptor: Weathering, Soils, Erosion
  - Period 14 Sediment Transport and Deposition

- Week 8 Mar 12-15 Lab 8: Stratigraphy & Geologic Time
  Required Reading: Chapter 1: Origin of the Earth & Life, pp12-217. Chapter 11: Effect of Life on the Atmosphere, Chapter 12: Biodiversity through Earth History
  - Period 15 Evolution of the Atmosphere and Biosphere I: The Early Earth
  - Period 16 Evolution of the Atmosphere and Biosphere II: The Maturing Earth

Spring Break Mar 19-23

- Week 9 Mar 26-30 Lab 9: Atmospheric Energy
  - Period 17 Evolution of the Atmosphere and Biosphere III: The Final Chapter

Part IV: The Atmosphere, Oceans, and Biosphere

Required Reading: Chapter 13: Global Energy Balance
- Period 18 Atmospheric Structure and Energy Budget

- Week 10 Apr 2-Apr 6 Lab 10: Introduction to Oceanography
  Required Reading: Chapter 14: The Atmospheric Circulation System
  - Period 19 Atmospheric Circulation
  - Period 20 Ocean Structure & Circulation I: Thermohaline Circulation

- Week 11 Apr 9-13 Lab 11: Waves, Currents, and Tides
  Required Reading: Chapter 15: The Circulation of the Oceans
  - Period 21 Ocean Circulation II: Wind-Driven Circulation
    Period 22 Apr 12 Prelim Exam II

- Week 12 Apr 16-20 Lab 12: Field Trip 1
  Required Reading: Chapter 17: The Dynamic Ocean
  - Period 23 Climate Variability
  - Period 24 Tides, Waves, and Coasts

- Week 13 Apr 23-27 Lab 13: Field Trip 2
  Required Reading: Chapter 16: Water & Seawater Chapter 19: Resources
  - Period 25 Ocean Chemistry
  - Period 26 Mineral & Energy Resources

- Week 14 Apr 30- May 4 Lab 14: Field Trip 3
  Required Reading: Chapter 18: Focus on Biota, Chapter 20: Climate Change
  - Period 27 Biosphere Dynamics
  - Period 28 Climate Change & the Carbon Cycle

Final Exam: Tuesday, May 15, 7-9:30 PM.