

Course Description

This class investigates the principles of interpretation of earth history and the evolution of life through time.

The course learning objectives:

- 1) To study the origin of the earth, and the relative geologic time scale (*Midterm*)
- 2) To develop a basic understanding of igneous, sedimentary and metamorphic rock formation. (*Midterm*)
- 3) To understand plate tectonics and the formation and evolution of continents and ocean basins (*Midterm*)
- 4) To learn the geomorphology of deserts, coastlines, rivers and glacial environments. (*Final*)
- 5) To learn the hydrologic cycle, including factors controlling subsurface flow. (*Final*)
- 6) To understand the nature and magnitude of human impacts in the context of geologic history (*Final*)
- 7) To learn scientific inquiry through interpretation of one of a series of very detailed geologic maps of the East Bay. (*Class Project*)

** The information in parenthesis indicates the locations where the assessment for this learning objective will be done.*

Section 1: Dr. Gregory Croft – Brousseau 112, 631-8140, gdc1@stmarys-ca.edu

Class Time: M,W,F 8:00 to 9:00, Galileo 202

Office Hours: M,W,F 10:20 to 11:45; other times by appointment

Text: Essentials of Geology, 3rd ed., Marshak, Norton 2009

EES 40 and 41 will be taken together. One grade will be given, weighted as follows:

Mid Term Exam: 25%

Final Exam: 25%

Lab Exercises: 30%

Mapping Project: 20%

Attendance is expected. More than three unexcused absences will carry at 10% grade reduction.

Dates	Subject	Reading
Aug 29, 31, Sep 2	Introduction, Earth in Context	Prelude, Chap 1
Sep 5*, 7, 9	Holiday*, How the Earth Works, Plate Tectonics	Chap 2
Sep 12, 14, 16	Minerals, Rocks, Igneous Rocks	Chap 3, Inter A, Ch4
Sep 19, 21, 23	Volcanoes	Chap 5
Sep 26, 28, 30	Sediments, Soils, Sedimentary Rocks	Inter B, Chap 6
Oct 3, 5, 7	Metamorphism and Rock Cycle	Chap 7, Inter C
Oct 10, 12	Midterm Review, Midterm Exam	
Oct 17, 19, 21	Earthquakes , Interior of Earth	Chap 8, Inter D
Oct 24, 26, 28	Structural Geology and Mountains	Chap 9
Oct 31, Nov 2, 4	Deep Time, California	Chap 10, Handouts
Nov 7, 9, 11	Water Cycle, Landslides, Deserts	Inter F, Chap 13, 17
Nov 14, 16, 18	Running Water, Oceans, Groundwater	Chap 14, 15, 16
Nov 21	Glaciers	Chap 18
Nov 23, 25	Thanksgiving Holiday	
Nov 28, 30, Dec 2	Global Climate Change	Chap 19
Dec 5, 7, 9	Course Review	
Dec 12	Final Exam	

EES 41 – Physical Geology Lab

Fall Term, 2011

Time: Section 1 Monday 1:00 to 3:00 PM, Alex LaGatta
Section 3 Monday 3:00 to 5:00 PM, Alex LaGatta
Section 2 Wednesday 2:00 to 4:00 PM, Greg Croft
Section 4 Wednesday 4:00 to 6:00 PM, Greg Croft
Location: Brousseau 125

#	Date	Subject
0	Sep 5 or 7	Homework – no lab
1	Sep 12 or 14	Topographic Maps
2	Sep 19 or 21	Plate Tectonics
3	Sep 26 or 28	Minerals & Rocks
4	Oct 3 or 5	Igneous Rocks
5	Oct 10 or 12	Sedimentary Rocks
6	Oct 17 or 19	Earthquakes
FT 1	Oct 24 or 26	Field Trip – Pinehurst Gate
7	Oct 31 or Nov 2	Landforms
FT 2	Nov 7 or 9	Field Trip- Marin Headlands
8	Nov 14 or 16	Structural Maps
9	Nov 21 or 23	No Labs - Holiday
10	Nov 28 or 30	Geologic Maps
-	Dec 5 or 7	Map Projects Due

Each lab counts ten points as does each field trip. The lab grade is the total of all the lab and field trip points. Do not miss any!

Student Disability Services

Student Disability Services extends reasonable and appropriate accommodations that take into account the context of the course and its essential elements, for individuals with qualifying disabilities. Students with disabilities are encouraged to contact the Student Disability Services Coordinator at (925) 631-4164 to set up a confidential appointment to discuss accommodation guidelines and available services. Additional information regarding the services available may be found at the following address on the Saint Mary's website: <http://www.stmarys-ca.edu/academics/academicadvisinrr-and-achievement!student-disability-services.html>