Pima Community College, West Campus, Tucson, AZ

Course: Introduction to Physical Geology
CRN: 11784 CREDITS: 4 units (lect/lab)
SCHEDULED CLASS TIMES: M-W @ 5:40 - 8:20
CLASS LOCATION: K Building - SCI 136
Instructor: Dr. Jan C. Rasmussen
e-mail = janras@comcast.net
website = http://www.janrasmussen.com
cell phone 520-603-7656
At present the URL address for the PCC Geology home page is:
http://www.azstarnet.com/~dshakel/

Required Textbook: Physical Geology, by Plummer, McGeary, & Carlson. There will be extensive use of the textbook, such as answering questions in the back of the chapters, consulting it for mineral identification, etc.

Course Description: This course is an introduction to Physical Geology. You will be studying various earth processes and earth materials. Earth processes include earthquakes, volcanic activity, weathering, mass wasting, and more. Earth materials include minerals, rocks, soil, water and other fluids. Classes will consist of lectures, movies, and lab exercises relative to the topics.

Attendance: This is a semester course requiring 6 hours per week of instruction. Consequently, missing a class means you miss 3 hours of instruction. We will cover lots of information in 3 hours. If you don=t come to class nearly every class period, you probably will not pass the course. Make every effort to come to class; attendance will be taken. If you miss too many classes without making arrangements with the instructor to make up the work, you should drop the class. If you don't drop the class before the deadline, you will get an F for the class.

Reading Assignments: You are expected to have read the appropriate chapter before coming to class. Your text is an excellent reference with relevant and useful information. Please follow the schedule without specifically being assigned any reading.

Exams: There are **three lecture exams** during the semester and **three or four lab exams**. The exams are designed to enhance the learning experience, as well as determine what you have learned. There will be an extensive list of review questions handed out in class before the exam and you will have the review topics as questions the week before the exam. The exam may include multiple-choice, true and false, essay and matching questions.

Oral Presentation and Term Paper: A term paper will be due at the end of the semester; this paper will be at least 5 pages in length (double spaced, typed), with a minimum of 5 references (three of which can be internet references). You will choose the topic. After about 4 weeks in the classroom you will select a topic and provide me with your choice. I expect the paper to be typed and look professional. In addition, you will present this paper orally in class as a 5 minute speech (absolutely not read aloud from your written paper), and then turn the paper in to be graded. This will give you the opportunity to give a presentation without any stress, other than the stress you place on yourself. You must pick up your term paper after I have graded it.

Lab Exercises: The lab exercises are very important. Lab assignments are generally done during class time. You are expected to work together in small groups, but please do your own work. Allow the others in your group to help you with your thinking processes. Do not copy the work of others.

Late Assignments: Late assignments are accepted without penalty, if the absence was excused prior to the absence. Unexcused absences will be penalized.

Field Trips: There is at least one field trip scheduled for the semester. This will be on a Saturday, as the days are short this time of year and we will not be able to safely maneuver in the field in the dark. There will be a handout provided to you to be completed during the field trip. The handout can be turned in the following class period. If you miss the field trip there is no way you can make this up.

Films: Videos are one of the best way of seeing geological processes in action, such as volcanoes, earthquakes, floods, etc., and many people learn better by seeing things in motion than by listening to lectures. Try to stay awake during the films as we will have exercises to fill out or write about after the film to emphasize the important concepts.

Class Participation: This is one of the most important aspects of the course. Participation by the students, who all have a wealth of personal experience to draw on, considerably adds to the learning by other students in the course. In addition, you will remember concepts better that you have talked about in class.

Grades: The point system for grading means that you must turn in everything you do, even if it is not complete. Every assignment (10 points for the hand-in assignment for each class), all field trips, participation, attitude, lab exercises, lab exams (100 points), term papers (100 points), the oral presentation (200 points), the lecture exams (200 points each), the final exam (200 points) and superior performance in class all provide points. At the end of the semester, your points are totaled and divided by the total assigned points. Your grade will be fair and accurate without bias or error. A summary of this system is that you can do poorly on the exam and still do very well in class. You can do great on the exam and do poorly in the class. Accurate records of are kept of every class period. Everything is logged and you will get a summary of your points near the mid-term and near the final exam.

Website: I will try to add the exercises to the website as we do them, but am making no promises, as sometimes the internet provider or my computer uploading program is recalcitrant. In the meantime, the exercises from previous classes (Physical Geology Pima College and Cochise College, Physical Geography Cochise College, and Physical Geology at Austin Community College are on the website and many of the exercises are the same.

Instructor's Background:

Jan Rasmussen, Ph.D.: I am currently working full time as a consulting geologist for mining and oil exploration companies, engineering and environmental consulting companies, and governmental organizations. I love teaching and have considerable teaching experience, both at the high school, community college (Pima College, Cochise College, and Austin Community

College), and university level (University of Arizona). I am an expert in Arizona geology, having worked for the Arizona Geological Survey for several years where I co-authored several bulletins and open-file reports for them and the U.S. Geological Survey (under my former married name of Jan C. Wilt). I have been active in the Arizona Geological Society as an officer, editor of guidebooks, and organizer of conferences and field trips until 1993 when I finished my Ph.D. at the University of Arizona, majoring in Geosciences (Economic Geology) and minoring in Engineering Geology. I worked as a Project Geologist for Woodward-Clyde Federal Services, a subcontractor for the Department of Energy, on the Yucca Mountain Project in Nevada from 1994 through 1997, where I supervised drilling projects for surface-based testing and managed the natural resources investigation project. Additional details about my resume, research, current projects, and publications are on my website at http://www.janrasmussen.com.

My educational philosophy emphasizes the team approach with the students being the most essential part of the team --- it is your job to be curious, ask questions, and grow in awareness, knowledge of the Earth, and perception of the interrelationships between humans and the Earth.

ADA (American Disabilities Act): Reasonable accommodations, including materials in an alternative format, will be made for individuals with disabilities when a minimum of five working days advance notice is given. For the general public, please contact the PCC information line at 206-4500 (TTY 206-4530); for PCC students, contact the appropriate campus Disabled Student Resources Office.

Cheating: Cheating is not acceptable behavior and cannot be tolerated and will result in an assignment failure.

day	date	LectureTopic	Chapter	Movie	Lab exercise
Wed.	Jan. 12	Introduction	1	Tsunami	Student questionnaire
Wed.	Jan. 19	Matter and Minerals	2	Gemstones	Mineral Properties
Mon.	Jan. 24	Minerals	Hand out	Out of the Rock	Mineral Identification
Wed.	Jan. 26	Mineral Groups	2	Diamond Deception	Mineral Identification
Mon.	Jan. 31	Mineral Uses	2	Mineral Identification	Mineral Identification
Wed	Feb. 2	Mineral Review	3	Mineral Exam	Mineral Exam
Mon.	Feb. 7	Field trip	3		To mineral show
Wed.	Feb. 9	Igneous Rocks	4	Volcanoes – Krafts	Igneous Rock I.D.
Mon.	Feb. 14	Volcanoes	4	Mt. Pinatubo	Igneous Rock I.D.
Wed.	Feb. 16	Volcanoes	4	Mt. St. Helens	Igneous Rock Exam
Sat.	Feb. 19	A Mountain field trip		9-12 AM	9-12 AM
Mon.	Feb. 21	Sedimentary Rocks	6		Sedimentary Rock I.D.
Wed.	Feb. 23	Weathering & Soil	5		Soil Examination
Mon.	Feb. 28	Metamorphic Rocks	7	Metamorphic Rock I.D.	Metamorphic Rock I.D.
Wed.	Mar. 2	Sed/Meta. Rocks Review			Sed. & Metamorphic Rock Exam
Mon.	Mar. 7	Geologic Time	8	Fossils	Fossil Exercise
Wed.	Mar. 9	Mid-term Exam			Topographic map exercise
Mon.	Mar. 21	Mass Movement	9	Landslide	Landslide Exercise
Wed.	Mar. 23	Rivers	10	Flash Floods; Floods	Rivers Exercise
Mon.	Mar. 28	Groundwater	11	San Pedro; Caves	Groundwater map
Wed.	Mar. 30	Glaciers	12	Glaciers	Glaciers Exercise
Mon.	April 4	Deserts	13	Work of the Wind	Dunes Exercises
Wed.	April 6	Oceans	14	Blue Planet	Coastline Exercise
Mon.	April 11	Second Exam			Grand Canyon Exercise
Wed.	April 13	Earthquakes	16	Day the Earth Shook	Earthquake Exercise
Mon.	April 18	Geologic Structure	15		geologic map exercise
Wed.	April 20	Plate Tectonics	19	The Living Planet	Plate tectonic exercise
Mon.	April 25	Presentations		Solar System	
Wed.	April 27	Energy Resources	21	Coal; Yucca Mtn.	Exercise
Mon.	May 2	Mineral Resources	21	Copper mining; Ertzberg-Grasberg gold mine	Exercise
Wed.	May 4	Planetary Geology		Planet Earth	Exercise
Mon.	May 9	Final Exam			