EARTH SCIENCE 100  
Fall 2006

Class #42002 – MW 1:00 pm. - 2:15 pm. Location UNIV 100  8/24/06 – 12/15/06
Class #41989 – MW 2:30 pm. - 3:45 pm. Location UNIV 100  8/24/06 – 12/15/06
(Satisfies the earth science content requirement for candidates in the Multiple Subject Teaching Credential Program)

Instructor: P. Anderson  
Office Hours: Before the 1:00 am class outside UNIV 100 in courtyard, and between classes in Univ 100 (also by appointment).

E-mail: panderso@CSUSM.edu  
Home page: http://courses.csusm.edu/es100pa/

Required Text:  
The accompanying companion web page is linked from my web page. There you will find many useful items such as practice quizzes, as well as other student support items. It is strongly suggested that you make use of this resource. “Work smarter, not harder!”

Recommended text:
Earth Science – Quick Study Card ISBN 0131878794

Materials: Rock and mineral set, Cost: $14.00 available at Discount Campus Books (Not mandatory, but you will probably want this!).

Only students who are officially registered may participate in this class. If you are given a permission code to add this class, you must officially add the class. The Final Exam will be held on Monday the 11th of December: No adjustments will be made, so plan your schedule accordingly!

Course Objectives
As a survey course, the content will provide a foundation in basic Earth Science concepts to include rocks, minerals, plate tectonics, water cycle, geology, geologic time, Oceanography, astronomy, and political aspects of Earth Science. Some topics include:

- What is the chance of San Diego getting hit with a tsunami?
- What are "El Niño" and “La Niña”?
- What causes an eclipse?
- Why do some mountains blow their tops?
- What is the difference between a rock and a mineral?
- Why are our local bridges being retrofitted for future earth quakes?
- Why does California have frequent earthquakes where as the east coast does not?
- What makes a mountain?
- Why does the earth have seasons?
- What can our oceans and sea floor sediments tell us about global warming?
- Why is the Ocean and Atmosphere interrelated and how does one affect the other?
- What fuels a hurricane and why are they more abundant on the East coast?

Because of the diversity of the subject matter, it is not possible to cover all areas with equal emphasis or in a comprehensive manner. The main point is to gain an understanding and appreciation of the dynamic processes and inter-related systems that exist within Earth Science. All readings are REQUIRED before class. Start with the chapter summaries. Review key terms and then read the chapter. Answer the review questions after reading. The lectures and films are only intended to augment and clarify the readings. Unit outlines are available on my webpage.

Note: Instructor is NOT responsible for lost, un-received/undelivered, or corrupt e-mails or e-mailed files. All files MUST be virus free. Files containing viruses will be dumped to trash.
## COURSE SCHEDULE (tentative)

<table>
<thead>
<tr>
<th>Date</th>
<th>Week of</th>
<th>Topic</th>
<th>Textbook Units</th>
<th>Earth Revealed Films</th>
<th>Textbook Chapter</th>
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</thead>
<tbody>
<tr>
<td>8/28</td>
<td>8/30</td>
<td>Syllabus, class overview. Maps. Introduction to Earth Science</td>
<td>1</td>
<td>1, 12, 14, 17, 18</td>
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<tr>
<td>9/4</td>
<td>9/6</td>
<td><strong><strong>Labor Day</strong></strong> Minerals: Building Blocks of Rocks</td>
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<td>9/18</td>
<td>9/20</td>
<td>Weathering, Soil, and Mass Wasting Running Water and Groundwater Glaciers, Deserts, and Wind</td>
<td>2</td>
<td>15, 16, 19, 20, 21, 22, 23</td>
<td>4, 5, 6</td>
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<tr>
<td>9/25</td>
<td>9/27</td>
<td>Earthquakes and Earth's Interior Plate Tectonics (USGS: This Dynamic Earth) The Ocean Floor Tsunamis (lecture)</td>
<td>3</td>
<td>3, 4, 5, 6, 7, 8, 9, 13, 25</td>
<td>7, 8, 9, 13, 25</td>
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<td>10/2</td>
<td>10/4</td>
<td>Volcanoes and Other Igneous Activity Mountain Building</td>
<td>3</td>
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<td>9, 10</td>
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<td>10/9</td>
<td>10/11</td>
<td>Geologic Time Earth's History: A Brief Summary</td>
<td>4</td>
<td>10, 11, 17</td>
<td>11, 12</td>
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<td>10/16</td>
<td>10/18</td>
<td><strong>Mid-term Chapters 1 thru 11 and lecture</strong> The Atmosphere: Composition, Structure, and Temperature</td>
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<td>10/23</td>
<td>10/25</td>
<td>Surface Ocean Currents (Lecture) Moisture, Clouds, and Precipitation</td>
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<td>10/30</td>
<td>11/1</td>
<td>Ocean Water and Ocean Life The Dynamic Ocean Moon phases and tides (Lecture)</td>
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<td>24</td>
<td>14, 15</td>
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<td>11/6</td>
<td>11/8*</td>
<td>Air Pressure and Wind Weather Patterns and Severe Storms Climate <strong><strong>Papers due</strong></strong></td>
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<td>18, 19, 20</td>
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<td>11/20</td>
<td>11/22</td>
<td>Presentations</td>
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<td>11/29</td>
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<td>12/4</td>
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<td>12/11</td>
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<td><strong>Final 1:00 pm class @ 11:30 am. 2:30 pm class @ 1:45 pm.</strong></td>
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In addition to the chapter readings, and the Internet links on my home page, there is a series of films: Earth Revealed. This is a series of 26, half hour, films available in the library, or you may stream the videos from a computer with a high-speed connection.

Go to http://www.learner.org/resources/series78.html. Click on the VoD icon and follow the directions to set up your free account. (Streaming image is rather small)
GRADING: 400 points total
Homework/quizzes/class participation and attendance is 50% of grade……………….. 200 pts
Midterm, .................................................................................................................. 100 pts
Final Exam .............................................................................................................. 100 pts

Homework and in-class participation/quizzes (200 points, 50% of the grade.) 2 Assignments.
Assignment #1 paper.................................................................................................. 50 pts
(References and cover page do not count toward page total). Due: 11/8

Opt. 1) Students working on teacher credentials: Find 5 lesson plans, that interest you, covering 5 different concepts in the field of Earth Science (peer reviewed). Write a 10 page paper reviewing these lesson plans and discuss how you would modify them to suit your teaching style, grade level, and how you would make them into inquiry based activities. Explain what you liked and what you did not and how you would change this. Remember you will always make changes each time you actually try them in the classroom setting depending on your needs. List both CA standards and National standards for the grade levels you plan on teaching. Remember to do your best as this is the project that you will most likely use in your profession. Include the original lesson plans.

Opt. 2) For those students who are not going on to teaching: Write a 10-page, 12pt double spaced with 1” margins, research paper, APA style, covering a topic of your choice that pertains to Earth Science. Topic must be approved by instructor.

Assignment #2……………………………………………………………………………….. 30 pts
PowerPoint presentation on either a lesson plan, or the Earth Science research paper.
Approximately 15 minutes in length. (Groups of no more than 5 students).

Note: For the mid-term and final you will be allowed ONE 8.5” x 11” sheet of paper with your handwritten notes, both sides. Photocopied notes and lift up flaps are NOT acceptable. If there is anything other than your hand written notes, I will take it. It is highly recommended that you take good notes and condense down to one sheet of paper. It is also highly recommended that you answer the chapter questions at the end of each chapter, as this is where I find most of the material for the exam questions.

Grades will be based on percentages:
A  93% – 100% 372 – 400  C  73% – 76% 292 – 307
A- 90% – 92% 360 – 371  C- 70% – 72% 280 – 291
B+ 87% – 89% 348 – 359  D+ 67% – 69% 268 – 279
B  83% – 86% 332 – 347  D  63% – 66% 252 – 267
B- 80% – 82% 320 – 331  D- 60% – 62% 240 – 251
C+ 77% – 79% 308 – 319  F  Below 59% 250

Students with disabilities who require academic accommodations must be approved for services by providing appropriate and recent documentation to the Office of Disabled Student Services (DSS). This office is located in Craven Hall 5205, and can be contacted by phone at (760) 750-4905, or TTY (760) 750-4909. Students with disabilities should meet with me during my office hours or in a more private setting in order to ensure your confidentiality.
CLASS ATTENDANCE
To learn how to swim, you must get in the pool! Therefore, in order to learn Earth Science, you are expected to attend every class and to be on time. It is very disruptive to your classmates to show up late for class: So, DON'T steal their education! Cellular phones MUST be turned off or put on vibrate. NO phone conversations will be permitted in class at any time! If you must take a call, take it outside. If this becomes a disruptive habit, I may ask you to leave the class. Absolutely NO calls will be permitted during examines, as this will be seen as cheating. Cheating on any exam is cause for an immediate failure with no makeups.

Most exam material will be from class lecture, films, discussions, and end of chapter questions. A significant part of class time will include films and slides related to concepts you will be expected to understand. If you are absent, please contact a friend in the class to get notes. It is your responsibility to obtain missed material from another student. I will NOT respond to e-mail requests for content of classes missed, even if you are notifying me in advance. Ask your classmates!

In addition to the above material I will include survival techniques for study management that will help you in building the skills needed to thrive in a college setting.

The key to success in my class is stay on top of the material, and asks lots of questions.

GOOD LUCK, WORK HARD, and remember: I am here to facilitate your learning

Classmates I Can Call:

__________________________
__________________________
__________________________

Should your study buddies drop it is your responsibility to find new ones.

WORK EXPECTED
As in most any entry-level course, you will essentially be expected to learn a whole new vocabulary centered on the scientific description of the Earth and its processes. You should plan to spend at least 3 hours studying for each hour of in-class time (if science "isn't your subject", or your reading skills are weak, it will take more time and effort). In other words, you will spend 3 hours per week attending class plus approximately 9 hours per week of "quality study time" devoted to preparing for this class each and every week!! (Don't expect to "cram" at the last minute before an exam...trust me, it won't work!) You should not only have a basic understanding of the meaning of vocabulary words but also be able to draw a visual image of the word and how it fits into the overall scope of the topic--ask yourself what, where, when, why, and how.