**PAMANTASAN NG LUNGSOD NG VALENZUELA**

Poblacion II, Malinta, Valenzuela City

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| **Course Title:** | EARTH SCIENCE |
| **Course Code:** | NAT.SCI. 1 |
| **School Year & Semester:** | 2011-2012 – First Semester |
| **Number of Credit Units:** | 3 units |
| **Faculty:** | Jaime S. De Vera, Jr. |
| **Department:** | Science |
| **College:** | Education |
| **Course Prerequisites** |  |
| **Course Description** | An overview of geology, physics, chemistry, and biology as they impact our universe; the earth’s internal processes; the makeup of the natural world. Included are a study of the earth’s air, water and physical processes as they shape the physical world. A highlight is emphasis on practical evaluation of the world’s energy and environmental problems. |
| **Course Objectives** | After completing the course, students will be able to:   * Define scientific terminology in order to foster the ability to read, interpret and understand scientific literature. * Develop and demonstrate an understanding of fundamental scientific principles. * Relate the study of Earth sciences to the world in which we live. * Become aware of and be able to express several major environmental issues which affect the health of their community. * Develop an appreciation for the natural processes that occur on Earth and how they impact and affect the environment. |
| **Course Format** | Socratic dialogue, forum, deductive method, inductive method, comparative analysis, small-group discussion, educational trips, quizzes, graded recitations, seat-works, assignments, midterm examinations and final examinations. |
| **Course Content** | 1. Introduction to Earth Science 2. Astronomy 3. Our Evolving Planet: the Earth 4. Meteorology & the Earth’s atmosphere 5. Oceanography & hydrology: the Earth’s water 6. Geological forces that shapes the earth 7. Rocks 8. Minerals 9. Weathering and Erosion 10. Earth and Environmental Issues and Concerns |
| **Course References** | Edward J. Tarbuck and Frederick K. Lutgens. E**arth Science, 10th ed.**, Pearson Education, Inc., Prentice Hall. Upper Saddle River, New Jersey. 2005  Ma. Chona S. Braganza. **Earth Science, Revised Edition**. Rex Bookstore, Philippines. 2007  Simon Adams & David Lambert**. Earth Science: An Illustrated Guide to Science**. Chelsea House Publisher. New York. 2006. |
| **Additional Materials** | Scott, Ryan. Cliffs Quick review-Earth Science. Wiley Publishing Inc., New York, 2006.  National Solid Waste Management Commission Video. Department of Environment & Natural resources (DENR), Environmental Management Bureau, Diliman Quezon City. 2009. |
| **Course Requirements** | A student should be able to:   1. pass the major examination and quizzes 2. participate in the classroom discussion and group activities 3. lead the discussion by being a student-discussant or reporter 4. submit a simple research project |
| **Bases of Course Grade** | * Quizzes 20% * Midterm / Final Examination 40% * Classroom Participation / Science Research 30% * Attendance / Attitude 10%   100%  Midterm + Final Term = **Final Grade**  2 |
| **COURSE CALENDAR** |  |
| **WEEK** | **TOPIC** |
| **Week 1 -2** | **Orientation**  **Introduction to Earth Science**   * Brief description of Science * Scientific Method * Scientific Attitudes * Importance of Earth Science * Branches of Earth Science |
| **Week 3-4** | **Astronomy & Cosmology**   * Origin of the universe and its key features * Tools used in studying the universe * Relational factors of the celestial bodies to earth  1. Energy and the earth 2. Motions of the earth, moon and sun   **LONG QUIZ 1** |
| **Week 5,6 & 7** | **Our Evolving Planet**   * Geology: definition & division * History of the Earth * Measurement & Models of the Earth   Size, shape, roundness of the Earth  Structure of the earth’s layer  Types of models   * Mapping the Earth   Latitude & Longitude Measurements  Maps & Map Reading  **LONG QUIZ 2** |
| **Week 8-9** | **Meteorology & the Earth’s Water**   * Earth’s atmosphere & conditions * Clouds precipitation * Weather |
| **Week 10** | **MIDTERM** |
| **Week 11** | **Hydrology & Oceanography: The Earth’s Water**   * Earth’s Water * Hydrologic Cycle * Ground water |
| **Week 12-13** | **Geological Forces that Shapes the Earth**   * Diastrophism * Earthquakes * Mountain Building * Volcanism   **LONG QUIZ 1** |
| **Week 14** | **Rocks**   * Origin * Cycle * Structure * Uses |
| **Week 15** | **Minerals**   * Origin * Cycle * Structure * Uses |
| **Week 16** | **Weathering and Erosion**   * Effects * Causes * Control   **LONG QUIZ 2** |
| **Week 17** | **Earth & Environmental Issues & Concern**  **Presentation of Project** |
| **Week 18** | **FINAL EXAM** |

**Supplementary Materials:** Multimedia Equipment (laptop and LCD projector, Earth Science Guide Book and activities / manual, Science Journals and companion website (www.sirjamesdeverajr.weebly.com)

Prepared by:

**JAIME S. DE VERA JR.**

Instructor

**CLASS POLICY:**

* **ATTENDANCE**. Roll will be taken before class starts, except when there is a quiz or exam (your exam paper serves as the attendance record). Three unexcused absences are allowed, after which, the student may be dropped from the course at the instructor’s discretion.
* **ARRIVE ON TIME**. All students are expected to arrive to class on time. If you work and estimate that you may have time-conflict, please let me know.
* **MAKE-UPS OF EXAMS AND QUIZZES**. During the last week of regular classes (completion week/exam week) or finals/completion week, make-up quizzes and exams will be administered in the laboratory during the mentioned schedule. You have to tell me your intention of making-up an exam or quiz in advance.
* **AVOID LATE ASSIGNMENTS**, procrastination is our worst enemy, don’t let it rule you
* **NO EATING, DRINKING, OR PLAYING IN THE LAB**.
* **ALL MOBILE PHONES need to be OFF OR IN SILENT MODE during lecture.**
* **CHEATING WILL NOT BE TOLERATED**. Instances of cheating or ANY form of academic dishonesty will be handled in strict accordance with university guidelines.
* **NO HORSEPLAY**. ANY disruptive and/or unsafe behavior WILL NOT BE TOLERATED. Any person involved will be asked to leave the room.
* In accordance with university policies, only those enrolled in this course are allowed in the class.

**SUGGESTIONS:**

􀀔 Get organized and follow a daily plan

􀀔 Read the chapter ahead of time, but do not try to learn the material during the first reading, just familiarized with the terminology.

􀀔 Use the your time wisely.

􀀔 Ask questions.

􀀔 Form study partners/groups

􀀔 Maintain a positive attitude.

􀀔 Medical Dictionary, Colored pencils and a calculator are very helpful tools.

**STUDY TIPS**

**Learning** involves not only memorizing, but also understanding the subject matter, especially at a conceptual level. Effective learning is active learning and requires **critical thinking**, which is an active, sustained, cognitive effort directed at solving a complex problem. Critical thinkingrequires integration of different sources of information, considering alternate perspectives, making critical judgments, and developing and testing hypotheses.

The following **study tips** will help you develop your capacity for critical thinking and therefore for active learning.

* **Familiarize** yourself with the material to be covered during lecture. Look at the syllabus, and then scan the pertinent portions of the *textbook*. As you read, jot down a *map* showing the major *concepts* that are covered and a *vocabulary* list of terms likely to be important to understanding these concepts (especially terms new to you). These activities will make you think about the topic and help prepare you for constructive listening and participation during class.
* **Take class notes**, being sure you write enough detail to follow the *logic* and capture the *concepts* that form the basis of the lecture or discussion. Don't try to write down everything; this will just get in the way of your listening and understanding concepts.
* **Read** the relevant pages in the *textbook*. This time, you are going for content, so it will help to generate an outline of the material, basing it on the concept maps you began when you skimmed the material before class.
* **Write new notes** based on your concept maps, vocabulary lists, class notes and reading outlines. The object is not neatness, nor is it just *reorganizing* or *categorizing* the material (although these are important parts of the process); rather, it is the *integration* of this material and *synthesis* of concepts and models that allow you to truly *understand* the material. Write these notes in your own words, because that makes you *assimilate* the material and *reflect* on it, thus fostering understanding by building neural pathways with links between things you knew before and new things.
* **Analyze** your notes rather than trying to just memorize them. It will, of course, be very important for you to remember the content, but that is not sufficient. Critical thinking about the subject material is needed to allow you to truly understand it. To do this in a more effective manner, try these processes:
  + **Be *curious*** ... seek to know as much as possible about the topics at hand.
  + **Look for *connections*** among facts, ideas and concepts.
  + ***Visualize* the concepts**, linking them to images will help you remember concepts and grasp both individual concepts and connections among them more easily.
  + **Generate *analogies*** to couple new material to things you knew previously.
* **Form a study group** of five or six people to use as a source of alternative perspectives, "sounding boards" and study partners. Keep "on task" when studying and remember to apply the principles of critical thinking throughout.