

**INSTRUCTOR:** Van Dubolsky

**OFFICE:** X-210

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**OFFICE HOURS:** MWF 8:25 – 8:55, 12:55 – 2:15  
T 8:25-9:25, 12:55 – 1:55  
TH 8:25 – 9:25, 12:55 – 2:15

**TEXTBOOK:** Earth Science, eleventh ed. by Tarbuck/Lutgens (Not required)

**LAB BOOK:** Physical Science Laboratory Manual, 4<sup>th</sup> edition, by Roy, Dubolsky, Mead, Patrick

**COURSE DESCRIPTION:**

This broad survey course is intended for the non-science student. It presents concepts of the physical sciences by following the evolution of the universe and by exploring the physical laws which govern its formation and organization. Topics will focus on astronomy and geology and their relationship to other sciences. The interaction between the sciences and other disciplines will also be emphasized.

**BROAD COURSE OBJECTIVES:**

1. Introduce the large and small-scale structure of the universe.
2. Introduce the concept of order in the universe.
3. Introduce the basic laws of the physical sciences.
4. Allow the student to gain a more experiential perspective of the sciences through selected activities.
5. Allow the student to broaden his science skill repertoire and reinforce his verbal and quantitative skills.
6. Introduce a historical perspective of the sciences and their role in shaping Western thought.
7. Introduce the interrelationships among the sciences and the relationships between the sciences and other disciplines.
8. Improve the student's ability to use a scientific perspective to make relevant choices regarding social issues.

**Americans with Disabilities Act (ADA)**

If you are a student with a disability: In compliance with Santa Fe College policy and equal access laws, I am available to discuss appropriate academic accommodations that you may require as a student with a disability. Requests for academic accommodations need to be made during the first week of the semester (except for unusual circumstances) so arrangements can be made. You must be registered with Disabilities Resource Center (DRC) in S-229 for disability verification and determination of reasonable academic accommodations. For more information, see

[http://www.sfcollege.edu/student/drc/index.php?section=faculty\\_resources/rights\\_responsibilities](http://www.sfcollege.edu/student/drc/index.php?section=faculty_resources/rights_responsibilities)

**Discrimination/Harassment Policy**

SF prohibits any form of discrimination or sexual harassment among students, faculty and staff. For further information, refer to College Rule 2.8 at

[http://dept.sfcollege.edu/rules/content/media/PDF/Rule\\_2/2\\_8.pdf](http://dept.sfcollege.edu/rules/content/media/PDF/Rule_2/2_8.pdf)

**Student Rights & Responsibilities**

The purpose of this document is to provide students with a general overview of both their rights and responsibilities as members of the Santa Fe College community. For a complete list of students' rights and responsibilities go to

[http://www.sfcollege.edu/studentaffairs/index.php?section=policies/student\\_rights](http://www.sfcollege.edu/studentaffairs/index.php?section=policies/student_rights)

# TENTATIVE TOPICAL OUTLINE

## I. Science

- a) The development of scientific thought
- b) Scientific methodology

## II. A Celestial Perspective

- a) Development of a point of view: a historical interpretation
- b) Structure of the universe
- c) The tools of the astronomer

## III. The Universe

- a) The expanding universe
- b) Cosmological models
- c) Evolution of the universe

## IV. Stars

- a) From protogalaxies to stars
- b) Stellar Evolution

## V. The Solar System

- a) Description of the Solar System
- b) Formation of the Solar System
- c) Inner vs. Outer Planets

## VI. An Inner Planet: The Earth

- a) Description
- b) Structure
- c) Evolution of the Early Earth

## VII. Terrestrial Processes

- a) Plate tectonics
- b) Orogenic systems
- c) Erosional systems

## VIII. Evolution of Life

- a) Geologic Time
- b) Fossils and Evolution
- c) Human Evolution

## IX. Science, Technology and Society

- a) The Agricultural Revolution
- b) The Industrial Revolution
- c) Modern Science and Technology
- d) Policy, Problems and Conflicts

## EVALUATION

In as much as all quizzes, tests, projects and assignments in this course require students to demonstrate their scientific reasoning skills (such as deductive or inductive inference, control of variables, application of a model to a new situation, interpretations based on fundamental theories, and interpretation of data in both tabular and graphical form), if a student earns a grade of C or higher on a designated assignment, the comprehensive final exam or the overall grade in the course, that is also indicative of the extent to which they understand and are able to apply these broader GELO skills.

Three tests worth 20% each .....	60%
Homework and Laboratory Assignments .....	20%
Final Exam .....	<u>20%</u>
Total.....	100%

**Final Grades:** The entire course is curved, but final grades are arrived at subjectively and individually. Traditional distributions are still honored!

(90% = A, 80% = B, 70% = C, 60% = D)

- \*\*\* Online course notes: Go to SFC Index under Natural Sciences then to Physical Sciences and look for course notes for PSC 2121.
- \*\*\* Laboratory exercises and homework will be worth up to 3 points for each exercise. Your raw score homework and lab grades will be converted to equal 20% of your final grade. Any late assignments will be docked one of the three possible points. No lab make-ups will be accepted if they are over three weeks late. All lab make-ups must be initialed by our lab assistant.
- \*\*\* Missed exams: No make-ups without a well documented excuse. No make-ups after that particular exam has been handed back and reviewed by the class.
- \*\*\* Cheating: Will not be tolerated. Zero on the individual item for a first offense and failure in the course for a second!
- \*\*\* Class attendance is not mandatory, but the material covered on exams will come from the class and lab activities. Absences will result in lower grades.
- \*\*\* Important Dates:
  1. First day of class:
  2. Holidays:
  3. Last day to withdraw and receive a "W"
  4. Last class day:
  5. Final exam day & time:  
TBA