CAMOSUN COLLEGE	***School of Arts & Science*** ***CHEMISTRY AND GEOSCIENCE DEPARTMENT*** **GEOS 110-001** **Earth-Ocean-Atmosphere System** **2010 Fall**

COURSE OUTLINE

This course introduces the interrelationships of the Earth-Ocean-Atmosphere system. Discussion of the origin of this system leads to consideration of physical and chemical properties and processes, and the distribution of chemical components and energy through the system. Short and long-term changes are investigated.

1. Instructor Information

(a)	Instructor:	Alan Gell		
(b)	Office Hours:	Mon, Wed:3:00-3:30, 6:00-6:30; Tues: 2:00-3:20		
(c)	Location:	F344B		
(d)	Phone:	250-370-3446		
(e)	Email:	gella@camosun.bc.ca		
(f)	Website:			

2. Intended Learning Outcomes

Upon completion of this course the student will be able to:

1. Discuss the nature, position and relationship of Earth to other planets of the solar system.
2. Describe and interpret short-term and long-term Geologic, Oceanic and Atmospheric processes and their interactions.
3. Make hypothesis-based scientific observations, analyze and interpret quantitative data with reference to Geologic, Oceanic and Atmospheric processes.
4. Understand the systems approach with reference to the earth, ocean and atmosphere.
5. Use simple laboratory equipment to study and measure processes representative of the earth.
6. Discuss electromagnetic radiation and the atmospheric energy balance.
7. Describe and understand the atmospheric circulation.
8. Describe ocean current transport and be able to assess the role of currents in global heat transfer.
9. Discuss the cryosphere and its response to, and influence on, climate
10. Summarize solid earth processes.
11. Describe biogeochemical cycles.
12. Comment on the energy budget of the atmosphere, and its short-term and long-term variability.
13. Comment on the chemical evolution of the atmosphere.
14. Discuss the long-term evolution of Earth and its cycles
15. Present evidence for causes of glaciations.
16. Discuss causes and effects of global heating

3. Required Materials

(a) **Text**: **The Earth System**, 3rd edition, by **Kump, Kasting and Crane**, Published by Pearson

(b) **Other:** calculator

4. Course Content and Schedule

Lectures: Mon F310 3:30-4:50; Wed F212 3:30-4:50
Lab: Tues F300: 3:30-6:20

5. Basis of Student Assessment (Weighting)

(a) **Labs**: 10 labs, each worth 2.5% of the course for a total of 25%

(b) Quizzes

(c) **Exams**: Tests 1, 2, each worth 15%; Final worth 30%. **YOU MUST PASS THE FINAL TO PASS THE COURSE**

(d) **Term Project**: paper or experiment or field observations and report (or other approved activity) worth 15%

6. Grading System

Standard Arts and Science Grading System

7. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College calendar, at Student Services or the College web site at camosun.ca.

STUDENT CONDUCT POLICY

There is a Student Conduct Policy **which includes plagiarism**. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, at Student Services and on the College web site in the Policy Section.