

Professor: Figen Mekik

Office: 146 PAD

Phone: 616 331 3020

E-Mail: mekikf@gvsu.edu

Office Hours: Tuesdays and Thursday 12-1pm in PAD146

Required Text: Tom Garrison, Oceanography: An Invitation to Marine Science

ISBN0-534-40887-7

We will begin this course by discussing the strengths and limitations of scientific reasoning. Then we will explore geological, chemical, physical and biological aspects of ocean science.

All students are greatly encouraged to actively participate in learning. In other words, ask questions, argue points and voice your opinions! Oceanography is a fun science with many exciting branches. So join in with your observations and thoughts, and do not hesitate to interrupt me and ask questions. All questions are welcome.

Format:

Class will consist of lecture, discussion, slides, overheads, class assignments, take-home assignments, discussion sessions, and movies that will reinforce the important topics from the text. You will be required to attend one 4-hour cruise on the Angus.

Evaluation:

EXAMS:

There will be four examinations during the semester plus a cruise and a term project. We will finish off the semester with a final exam. The exams are tough. I have high standards for my students. Memorization will not help you in my exams. Understanding will.

In general, make-ups for any missed exam are unavailable. However, if you are ill or there is a death in the family you may take a make-up as long as you can provide documentation (for example from a doctor) for the cause of your absence from an exam. If you know that you will miss a future exam for a legitimate reason, let me know ahead of time and I can arrange for you to take the exam prior to the scheduled exam date.

ATTENDANCE:

Success in this course is directly correlated with your attendance and participation in class. Topics build on top of one another. When you miss a class, you may miss the foundation for the next class. So, here is my tip: come to class, pay attention, take notes and ask questions.

Grading:

EXAMS during semester: 450 points (150 points each)

CLASS WORK, HOMEWORK and QUIZZES: 150 points

ANGUS CRUISE: 100 points

TERM PROJECT : 100 points

FINAL EXAM (200 points)

TOTAL POINTS =1000

LETTER SCALE: Letter grades will be assigned by the following scale:

1000-900	899-800	799-650	649-500	<500
A	B	C	D	F

Cruise Dates:

- September 8th 8-12 am (1)
- September 9th 8-12 am & 1-5 pm (2)
- September 11th 1-5 pm (1)
- September 16th 8-12 am & 1-5 pm (2)
- September 23rd 9-1 pm (1)
- September 29th 1-5 pm (1)
- September 30th 8-12 am (1)

**GENERAL EDUCATION FOUNDATION CATEGORY:
THE PHYSICAL SCIENCES**

Category Purpose and Description

The physical sciences explore and seek to explain the behavior of the physical universe. They seek to understand the fundamental workings of nature, from the behavior of particles of matter to the functioning of the galaxies. Study of the concepts, history, contexts, and methodologies of the physical sciences assists students in becoming scientifically literate. Each course in this category is a broad introduction to one or more of the physical sciences. Courses contribute to the development of critical thinking and problem-solving skills, and help students apply an understanding of scientific ways of thinking to their own lives and careers.

Content Objectives

All courses in the Physical Sciences Category include the following content:

- 1) The introduction of the physical sciences as a "way of knowing"; an examination of principles and questions that define the field;
- 2) An understanding of how scientists use information and theory to explain the phenomena observed in the physical universe;
- 3) The unifying concepts of the physical sciences including the forces of nature, the structure of materials, and the role of energy in the physical universe.

Skills Objectives

All courses in the Physical Sciences Category use teaching methods that help students become more proficient in the following skills:

- 1) To engage in articulate expression through effective speaking or writing;
- 2) To think critically and creatively;
- 3) To locate, evaluate, and use information effectively.

Courses in the Category

- Non lab: CHM 102; GEO 100; GEO 103; GEO 105
- Lab courses: CHM 109; CHM 115; CHM 201; GEO 111; NRM 140; PHY 105; PHY 201; PHY 202

Dates	Topics	Chapters
August 29	Introduction	1
August 31	Mass Balance and Isostasy	3
September 5	LABOR DAY	
September 7	Origin of Ocean Basins	3
September 12	Plate Tectonics	3
September 14	Topography of the Deeps	4
September 19	EXAM 1	
September 21	Marine Sediments	5
September 26	Marine Sediments	5
September 28	water and Ocean Structure	6
October 3, 5	Seawater chemistry	7
October 10	Atmospheric Circulation	8
October 12	EXAM 2	
October 17, 19	Ocean Circulation	9
October 24, 26	Waves and Tides	10,11
Oct. 31, Nov. 2	Shorelines	12
November 7, 9	Bioproductivity	13
November 14	EXAM 3	
November 16	Plankton, Algae and Plants	14
November 21	Marine Animals	15
November 28-30	Student presentations	
December 5, 7	Student Presentations	

Final Exam: Monday Dec. 11th, 12-1:50 PAD 109.

LAST WITHDRAWAL DATE with grade W: October 20, 5pm.

****This syllabus is subject to change where change is needed, as the course progresses.**