

CSU GE: Effective: SPRING 2005 Inactive:
 Transfer area: B1 PHYSICAL UNIVERSE

IGETC: Effective: SPRING 2005 Inactive:
 Transfer area: 5A PHYSICAL SCIENCES

CSU TRANSFER: TRANSFERABLE Effective: SPRING 2005 Inactive:

UC TRANSFER: TRANSFERABLE Effective: SPRING 2005 Inactive:

CAN:

CERTIFICATE APPLICABLE: N NOT CERTIFICATE/MAJOR APPLICABLE

APPROVAL AND DATES

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Version 01 Submitted by: STEVE CARDIMONA Date: 12/18/2003
 Department approved: Date:
 Curriculum approved: 02/20/2004 Version approved: 02/20/2004
 Prerequisites approved: 02/20/2004 Last reviewed: 02/20/2004
 Term effective: FALL 2004 Last taught: SUMMER 2008 Inactive:

COURSE CONTENT

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OUTCOME AND OBJECTIVES:

1. Identify basic plate tectonic processes and interpret the key effects of plate interaction.
2. Differentiate between different kinds of faults, their plate tectonic origin, and their associated deformation.
3. Evaluate geologic map features and distinguish between various folding structures.
4. Describe various indicators of relative age dating and analyze data to determine geologic history.
5. Develop a model to distinguish between the key mineralogical classifications.
6. Distinguish between different kinds of magmas and the associated volcanic activity.
7. Compare and contrast ocean and continental igneous mineralogy.
8. Associate sedimentary rock types with their depositional history.
9. Describe key processes of change and the metamorphic rocks that result.
10. Associate specific tectonic processes with the generation of geologic resources.
11. Develop a model for groundwater flow and describe specific characteristics of aquifers.
12. Formulate specific steps and key factors involved in mass wasting and other geologic hazards.
13. Define emergent coastal processes and illustrate how these affect the look of the coast.
14. Determine various geologic processes at work to create deserts and eolian features.
15. Compare and contrast the erosional and depositional effects of glaciers.

TOPICS AND SCOPE:

1. Fundamentals of plate tectonics and earlier theories.
2. Faulting and folding of rocks and structural geology.
3. Geologic time, fossil record, relative and absolute age dating.
4. Basic chemistry and mineralogy.
5. Igneous activity, volcanoes and tectonic implications.
6. Magma and igneous rocks.
7. Erosion, sedimentation and sedimentary rocks.
8. Processes of change and metamorphic rocks.
9. Geologic resources.
10. Surface and ground water.
11. Geologic hazards.
12. Processes shaping our coasts.
13. Desert geology.
14. Glaciation and geologic time.

ASSIGNMENTS:

READING ASSIGNMENTS:

Appropriate reading assignments will be given from college level text(s). A variety of media may be used to supplement textbook readings, such as:

1. Current news articles from local or regional papers.
2. Reports, news articles or other documents from internet sources.
3. Documents by government agencies such as the California Geological Survey.

WRITING ASSIGNMENTS:

Appropriate written assignments will be given which allow students to demonstrate their understanding of key concepts, present critical review of reading materials, and describe the application of course topics to the analysis of specific problems. Assignments will include:

1. Short essays involving written critiques and comparisons of geologic concepts and terminology.
2. Analytical exercises requiring application of geologic concepts to solve practical problems.

Additional writing exercises may be assigned such as:

1. Analytical semester project that requires the application of graphic and descriptive analysis to geologic problems.
2. Term paper on topic of interest to student but focused on clarifying specific geologic concepts.
3. Reviews of news and/or research reports from entities such as the California Geological Survey.
4. Essay examination.

OUTSIDE ASSIGNMENTS:

Out of class assignments are required. These assignments will allow students to take a more in-depth look at course topics and will include:

1. Reading and writing assignments as specified in the course syllabus.
2. Summaries of research-oriented questions addressing geologic topics.

Additional assignments may be included in the course, such as:

1. Analytical semester projects that require the application of graphic and descriptive analysis to geologic problems.

2. Assigned/recommended attendance at guest speaker lectures.
3. Viewing of assigned/recommended media materials.
4. Library, electronic, and other research on a variety of geologic subjects.
5. Term paper on topic of interest to student but focused on clarifying specific geologic concepts.
6. Reviews of news reports or research reports from entities such as the California Geological Survey.

METHOD OF INSTRUCTION:

Methods of instruction will include:

1. Lecture and visual aids.
2. Quiz and examination review performed in class.
3. Homework and extended projects.

Additional instruction may include:

1. Discussion and problem solving performed in class.
2. Guest speakers.
3. Optional materials available for review in the Learning Center and/or library.

METHODS OF EVALUATION:

A student's grade shall be determined based on demonstrated proficiency in the subject matter and the ability to demonstrate that proficiency, at least in part, by means of essays and problem-solving exercises including: 1. In class objective examinations that test for knowledge and applications of specific geologic concepts. 2. Out of class writing assignments that test the knowledge and application of geologic principles. Proficiency in the subject matter may be measured through supplementary assignments/activities such as: 1. Take home essay assignments and/or examinations. 2. Analytical semester projects. 3. Research papers. 4. Class participation including oral presentations on a variety of geologic subjects.

BASIS FOR GRADING:

The assignment of a grade is based on the level of achievement of the outcomes and objectives of the course outline and is reflected in quantifiable terms in the course syllabus.

REPRESENTATIVE TEXTBOOKS:

1. Physical Geology, 9th ed., Plummer, McGeary and Carlson, McGraw Hill, 2003, ISBN: 0-07-240246-6.
2. Earth's Dynamic Systems, 10th ed., Hamblin and Christiansen, Pearson Education (Prentice Hall), 2003, ISBN: 0-13-142066-6.

RATIONALE

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RESOURCES REQUIRED

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MISCELLANEOUS

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Advisory generate desc:	Y	YES
Area department:	GEL	GEOLOGY
Audit flag:	N	NOT AUDITABLE
Basic skills:	X	NOT BASIC SKILLS
Classification:	A	Liberal Arts and Sciences
Cost level:	01	
Disciplines:		GEOLOGY
Division:	02	MERIDITH RANDALL
Faculty service areas:		GEOLOGY
Fee:	\$0.00	
In-service:	X	NOT IN-SERVICE
Level below transfer:	X	NOT APPLICABLE
Matric-requiring:	X	Exempt from assessment
Maximum class size:	0	
Maximum wait list:	0	
Method of instruction:	02	LECTURE
Non-credit category:	X	NOT APPLICABLE, CREDIT COURSE
Open entry/exit:	N	Not open entry/exit
Pacs activity:	1914	GEOLOGY
Pacs program project:	0000	
Preq/coreq generate desc:	N	NO
Preq/coreq provisional:	N	NO
Preq/coreq reg check:	N	NO PREREQUISITE RULES EXIST
Repeat group id:		
Requires instructor sig:	N	INSTRUCTOR'S SIGNATURE NOT REQUIRED
SAM classification:	E	Non-occupational
Selected/special topic:	N	NOT A SELECTED TOPIC COURSE
Special class:	X	NOT A SPECIAL COURSE
TOP code:	1914.00	GEOLOGY
Workload:	0.0000	