

CASPER COLLEGE COURSE SYLLABUS
GEOL 1070, 01 – Earth Science for Elementary Education Majors

Semester/Year: Fall 2015

Lecture Hours: 3

Lab Hours: 2

Credit Hours: 4

Class Time: 10:00-11:50 a.m.

Days: MWF

Room: TM 121

Instructor's name: Dr. Kent Sundell

Instructor's

Contact

Office: Tate Museum Room 103

Information:

Office Phone: 268-2498 (O) or
307-259-5258 (cell-text)
Please call prior to 10:00 p.m.

Email:
ksundell@caspercollege.edu.

Office Hours: MWF 8-9am MW
12-1 pm

COURSE DESCRIPTION:

This class covers earth science processes that resulted in the present topography and past geologic events, including the fossil record or evolutionary response to changing geography through time. It includes energy resources, pollution, ecology, mineral resources, plate tectonics, the earth framed as a planet, and the solar system.

PREREQUISITES: None

OBJECTIVES: (outcomes- specifically #2 in CC gen. ed. outcomes on the scientific method)

- 1) Understand the scientific method, specifically, how the Law of Gravitational Attraction, Big Bang Theory and Theory of Plate Tectonics help explain formation of the Universe, Our Solar System, and Planet Earth
- 2) Use the scientific method to solve problems introduced in a laboratory setting, including hands on studies of minerals, rocks, and maps
- 3) Be able to identify and understand the processes of forming minerals, rocks, earthquakes, volcanoes and geologic structures that shape the Earth's crust
- 4) Understand how interactions between Atmosphere, Hydrosphere, and Lithosphere shape Earth's surface through surficial processes (streams, glaciers, dunes, waves, and landslides)
- 5) Understand geologic time including: the evolution of life based on the fossil record, dating of Earth's history, and specific examples of Wyoming's geologic history over the past 4 billion years
- 6) Understand the interactions between humans and the Earth through studies in ecology, mineral resources, energy sources, and pollution

The outcomes will be assessed by testing, problem solving, writing, pictorial, and oral dialogue between the instructor and student throughout the course.

METHODOLOGY:

This course will consist of a series of lectures, demonstrations, discussions, and laboratory exercises designed to cover the main facets of physical and historical geology. The lectures will explain and expand upon the material in the text and will provide up-to-date coverage of what is known in the field of geology, including gray areas in which knowledge is limited and in which theory is king. Because geology is a physical science, students will get an opportunity in lab to examine at first hand the materials making up the earth. Through the use of aerial photographs and topographic maps, the students will be able to examine some of the processes which are shaping the earth. Students are expected to make every effort to attend class meetings, to carefully read all assigned material, and, above all, ask questions when confused or unsure.

Evaluation Criteria:

Student evaluation will be as objectively as possible through the use of regularly scheduled exams in the class, as well as lab exercises. Participation in the day to day give and take of the classroom is an important aspect of a college education. Therefore, students will be expected to attend each and every class meeting and enter into discussions and question-and-answer sessions. The outcomes will be assessed by testing, problem solving, writing, pictorial, and oral dialogue between the instructor and student throughout the course. Casper College may collect samples of student work demonstrating achievement of the above outcomes. Any personally identifying information will be removed from student work if collected.

APPROXIMATE POINT DISTRIBUTION

Lecture is approximately **75%** of your final grade

Exam I	150 points
Exam II	150 points
Exam III	150 points
Exam IV, Final	150 points
Lab Grade	200 points
TOTAL POINTS POSSIBLE: Approximately	800 points

Grade Cutoffs: A: 90%+; B: 80-89%; C: 70-79%; D: 60-69%; F: <60%

Exams: The exams will be some combination of multiple choice, short answer, and essay. If you have difficulty writing essay answers on exams please contact the Casper College Writing Center for help as soon as possible (**before the first exam**). Some questions will ask for simple facts. Others will concentrate on solving problems through the application of geological knowledge. I do not take points off for missing classes, mainly because that problem takes care of itself: **if you miss too many classes, you will not do well** on my exams. It is incumbent upon the student to get class notes from someone, and ask me for clarification if you must miss class. I reserve the right to curve exam scores if I decide it is necessary.

Make-up Exams: If you must miss an exam, you will be allowed to make it up only if you contact me prior to your absence with a believable, significant excuse or have an official Casper College excuse for medical or emergency absences. I return all exams to students, so make-up exams will consist of mainly essay questions, which I will write separately from the regular exam.

Lab: The lab exercises will count as approximately **25%** (approximately 200 points) of your final grade.

Field Trips: There may be several short Casper field trips during scheduled lab time; there will be one optional weekend field trip near the end of the semester to be announced, worth 25 extra credit points!

Required Text, Readings, and Materials:

Earth by Thompson and Hendricks 2; other reading materials may be assigned from time to time. **Lab manual:**
Physical Geology by Hamblin and Howard.

Class Policies: Last Date to Change to Audit Status or to Withdraw with a W Grade: 11/12/15

Official Means of Communication: Casper College faculty and staff will employ the student's assigned Casper College email account as a primary method of communication. Students are responsible to check their account regularly.

Student Rights and Responsibilities: Please refer to the Casper College Student Conduct and Judicial Code for information concerning your rights and responsibilities as a Casper College Student.

Chain of Command: If you have any problems with this class, you should first contact the instructor in order to solve the problem. If you are not satisfied with the solution offered by the instructor, you should then take your problem through the appropriate chain of command starting with the department head, then the school dean, and lastly the vice president for academic affairs.

Academic Dishonesty - Cheating & Plagiarism: Casper College demands intellectual honesty. Proven plagiarism or any form of dishonesty associated with the academic process can result in the offender failing the course in which the offense was committed or expulsion from school. See the Casper College Student Code of Conduct.

ADA Accommodations Policy: It is the policy of Casper College to provide appropriate accommodations to any student with a documented disability. If you have a known accommodation in this course, please make an appointment to see me at your earliest convenience. To request academic accommodations, students must first consult with the College's disability Services councilor located in the Gateway Building, Room 344, (307) 268-2557, bheuer@caspercollege.edu

Calendar / schedule indicating course content: The topics below are listed in the order in which we will study them. You will be responsible for material covered up to the date of the exam.

WEEK of	TOPIC		READING
Aug. 24*	Introduction. Scientific method. Earth Systems.		Ch. 1
Aug. 31	Astronomy. Origin of Universe, Solar System & Earth.		Ch. 22, 23, & 24 (ONLINE)
Sep. 7 *	Earth's interior and Plate Tectonics. No class Sep. 7 – Labor Day		Ch. 6
Sep. 14	Earthquakes, structural geology, and mountain building. Exam I (this week)		Ch. 7, 9
Sep. 21 *	Minerals and Rocks.		Ch. 2, 3, 4
Sep. 28	Igneous rocks and volcanoes.		Ch. 3, 8
Oct. 5 *	Sedimentary rocks, weathering, and soils.		Ch. 3, 10
Oct. 12	Metamorphic rocks. Exam II		Ch. 3
Oct. 19 *	No class Oct. 19-20 (fall break) Atmosphere & weather.		Ch. 17, 18, 19, 20
Oct. 26	Oceans, waves, tides and coastal processes.		Ch. 15 & 16
Nov. 2 *	Streams, and Ground fluids (water, oil and gas). Topographic maps.		Ch. 11, 12
Nov. 9	Glaciers, Deserts and climatic change. Exam III.		Ch. 21 & 13
Nov. 16 *	Geologic time, Fossils and Evolution.		Ch. 4
Nov. 23	Precambrian Era. No Class Nov. 25-27 Thanksgiving		Notes
Nov. 30 *	Paleozoic & Mesozoic Eras.		Notes
Dec 7	Cenozoic Era		Notes
Dec 14	Finals Dec. 14-17 Final Exam IV as scheduled.		All Readings