NSCI 342: Concepts in Earth and Space Science

Course Syllabus: Fall 2013

Lecture and Lab (Tuesday/Thursday)

Instructor: Dr. Julie Monet
Lecture: Plumas Hall, room 201, Tuesday 2:00 - 2:50
Lab section (05), TTH 11:00-12:50, Physical Sciences 232
Office hours: Wednesday 12:30 - 2:00PM & Thursday 1:30 - 2:30PM or by appointment
Office location: Physical Sciences 119A
Contact: jmonet@csuchico.edu Please use the following heading in the subject line **"NSCI 342 lecture or lab section 05"**
Office phone: (530) 898-3460

Instructor: Chris Brown
Lab section (04), TTH 9:00 - 10:50, Physical Sciences 232
Office hours: Mon. 2:00-3:00 PM (Holt 142), Wed. 1:00 - 2:00 (Physical Science 232), or by appointment
Office location: Holt 142
Office phone: 898-5515
Contact: cwbrown@csuchico.edu Please use the following heading in the subject line **"NSCI 342 lab section 04"**

Important!
Prerequisites: NSCI 141, NSCI 142, or faculty permission. The prerequisites for this course are strongly enforced. If you are enrolled in the course and you have not meet the prerequisites you will be asked to drop.

Course Usage of Blackboard Learn

You are responsible for checking the course website on a weekly basis. Any updates, or changes in the class schedule will be noted on Blackboard Learn.

Required Course materials:

Textbook:
Earth Science (12th edition) by E.J. Tarbuck and F.K. Lutgens

Lab manual:

You will be able to buy a lab notebook on the first day of lab. If you do not have a lab notebook you will not be able to participate in the lab.

Course Goals

- To provide an environment for students that promotes inquiry, critical thinking and student ownership in their learning
- To develop students conceptual knowledge and understanding of fundamental concepts and processes in earth science that will provide a strong foundation for teaching and the relevancy of earth science in students everyday lives.
- To foster student interest and value in teaching earth science

By the end of the semester students should understand and be able to:

- Evaluate scientific evidence and explanations;
- Interpret basic features on an aerial and topographic map
- Understand the nature and development of scientific knowledge;
- Demonstrate knowledge and understanding of continental drift, plate tectonics and the internal structure of the earth.
- Demonstrate knowledge and skills for identification of a basic rocks and minerals based on chemical and physical properties
- Explain the hydrologic cycle and how it interacts with the rock cycle
- Explain the factors that determine the amount of erosion from runoff and understand the various ways that a stream transports sediment.
- Identify and demonstrate how to connect classroom earth science curriculum with processes and applications in the local, and regional natural landscape of California

Classroom Protocol (Lecture and Lab)

- **Do not** use your personal laptop during lecture or lab. If you need to use your computer to take notes, please see me during office hours. Students with disabilities requesting accommodations must register with the DSS Office (Disability Support Services) to establish a record of their disability.
- Cell phones must be turned off at the start of class. To request an exception to this policy, see the instructor before the class begins.
- Any form of academic dishonesty will result in a zero for that exam or class assignment, and possible disciplinary action. It is your responsibility to become familiar with CSU Chico's academic honesty policy, and student rights and responsibilities policy. For more information on each of these topics I recommend viewing the following website:

http://www.csuchico.edu/prs/EMs/2004/04-036.shtml

Policy for lab attendance and missed lab work

- Lab attendance is mandatory. To receive credit for a missed lab activity you must attend another lab section (with instructor's prior approval) or complete the lab on your own during one of the lab instructors' office hours (with instructor's prior approval). A missed lab can only be completed within 1 week of returning to class.

Policy for lecture homework

•All homework assignments **must be typed** and submitted **by you** at the end of each class.

• Late homework will **only** be accepted with an excused absence (doctor's note), and must be submitted on or before the day you return to class

Important late policy!

If you are late for lecture and missed the reading response question given during the first 5 minutes of lecture, it is **your responsibility** to see me after class so I can document that you attended. The quiz is the only form of documentation that validates your attendance. If there is no record of you taking the quiz then you will receive a **"0"** on the homework even if it is handed in.

This policy is meant to reward students who show up for class. I realize that lecture is not the most exciting part of class (I personally would rather have more time in lab), but it serves as a means to reinforce the concepts you are learning in lab, and to deepen your understanding of the topics covered in the reading.

University Policies and Campus Resources

Dropping and Adding

You are responsible for understanding the policies and procedures about add/drops, academic renewal, etc. found http://www.csuchico.edu/catalog/. You should be aware of the new deadlines and penalties for adding and dropping classes. Assignments and Grading Policy

Academic integrity:

Students are expected to be familiar with the University's Academic Integrity Policy. Your own commitment to learning, as evidenced by your enrollment at California State University, Chico, and the University's Academic Integrity Policy requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the Office of Student Judicial Affairs. The policy on academic integrity and other resources related to student conduct can be found at:
http://www.csuchico.edu/sjd/integrity.shtml.

Campus Policy in Compliance with the American Disabilities Act:
Students with disabilities requesting accommodations must register with the DSS Office (Disability Support Services) to establish a record of their disability. Special accommodations for exams require ample notice to the testing office and instructor 2 weeks prior to the exam date.

Disability Services:
If you need course adaptations or accommodations because of a disability or chronic illness, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Please also contact Disability Support Services (DSS) as they are the designated department responsible for approving and coordinating reasonable accommodations and services for students with disabilities. DSS will help you understand your rights and responsibilities under the Americans with Disabilities Act and provide you further assistance with requesting and arranging accommodations. The Disability Support Services website is http://www.csuchico.edu/dss

How you will be graded:
Your final grade will be a combination of lecture and lab. Both lecture and lab grades will be posted on Blackboard Learn under NSCI 342 section 01.

Lecture **Extra credit:** Volunteering (1 time only) to read the weekly homework questions (10 pts)	
Weekly Question Response (9@ 5 points each)	45pts
Weekly homework assignment (10 @ 10 pts, 1 @ 15pts)	115 pts
Mid-term (individual & group combined)	60 pts
Final (individual & group combined)	75pts
Lecture points	**295**

Lab **Extra credit: 100% lab attendance (15 pts)**	**Pt. value**
Labs Activities: 20 @ 15 pts each	300
Exam 1 (group) If you have more then 1 unexcused lab before exam 1 you will be required to take the exam **individually.**	75
Exam 2 (individual)	95
Exam 3 (group) **Important!** If you have 3 or more unexcused absences for the entire semester you will be required to take the exam **individually.**	100
Place-based group project	35
Lab	**605**
Lecture	**295**
Total pts possible	**900**

Grade Point Distribution out of 900 possible points

Points are translated to letter grades as follows:

F	D	D+	C-	C	C+	B-	B	B+	A-	A
< 60%	60%	67%	70%	73%	77%	80%	83%	87%	90%	93%
0-539	540-602	603-629	630-656	657-692	693-719	720-746	747-782	783-809	810-836	837-900

Lecture Schedule

Subject to change with fair notice

Date	Topic	Read Before Class	Homework
Aug 27 1	Course Summary & Pet Rocks		HW #1, due Sept 10 Watch a youtube video, and answer questions (see lab notebook Appendix A). **Note** there is an underscore between = and t http://www.youtube.com/watch?v=_tvWDPBNiD4
Sept. 3	No lecture		
Sept. 10 2	Igneous rocks & volcanoes	Chap. 3 (52-62) Chap. 9 (248 - 262) QR1	HW #2, due Sept 17 Chap. 3 - questions 1, 3, 5 Chap. 9 - questions 1, 2, 3, 9, 10
Sept. 17 3	Sedimentary rocks & weathering	Chap. 3 (62-70), Chap. 4 (83 - 91) QR2	HW #3, due Sept. 24 Chap. 3 - questions 6, 7. 11 Chap. 4 - questions 1, 2, 3, 5
Sept. 24 4	Metamorphic rocks & Deciphering Earth's History	Chap. 3 (70 - 75) Chap. 11 (p. 310-315 & 318-322) QR3	HW #4, due Oct. 1 Chap. 3 - questions 13, 15, 16 Chap. 11 - questions 1, 2, 3, 10, 11
Oct. 1 5	Earthquakes part 1	Chap. 8 (219-226) QR4	HW #5, due Oct 8 Chap. 8, questions 1, 2, 4, 5, 8,
Oct. 8 6	Testing the theory of plate tectonics & the Earth's Interior	Chap. 7 (205 - 214) QR5	HW #6, due Oct 15 Chap. 7 - questions 15, 16, 18, 19 & 20

Oct. 15 7	Using models to teach students about plate tectonics & the Earth's interior	No reading	HW #7, due Oct 29 (15pts) **(See Appendix B for directions and HW questions)** •Make a plate tectonics tennis ball globe (submit finished globe in a zip lock labeled with your name) •HW questions
Oct.22	Mid-term (covers Aug 27 - Oct 15)		
Oct. 29 8	Running Water and Ground Water	Chap. 5 (116-132) QR6	HW #8, **due Nov 5** Chap. 5 - questions 2, 5, 6, 7, 8, 9, 11, &14
Nov. 5 9	Earthquakes (part 2)	Chap. 8 (231-240) QR7	HW #9, **due Nov 19** Chap. 8 - questions 9, 10, 14, 15, 17 & 22
Nov. 12	No Lecture		
Nov. 19 10	Earth-Sun Relationships: Temperature	Ch. 16 (462-473) QR8	HW #10, due (Dec. 3) Chap. 16 - questions 16, 17, 18, 20, 21, 22
Dec. 3 11	Touring Our Solar System	Chap. 22 (625-632) QR9	HW #11, due Dec. 10 Chap. 22 questions 1, 2, 4, 5, 6
Dec. 10 12	Review	Note: the final test score will be based on a combination of the score you receive for an individual and group test.	
Finals week	The lecture final will be given during the college assigned date and time. TBA		

Lab Schedule: T/TH

	INTRODUCTION
(T) Aug 27	LAB 1: How Scientists Study the Earth: Observations & Inferences
(TH) Aug 29	LAB 2: The Importance of Geologic Time & Fossils
(T) Sept 3	No class
PART 1	EARTH MATERIALS
(TH) Sept 5	Lab 3A: Minerals the Building Blocks of Rocks
(T) Sept 10	Lab 3B: Minerals the Building Blocks of Rocks
(Th) Sept 12	Lab 4: The Formation and Classification of Igneous Rocks
(T) Sept17	Lab 5: The Formation and Classification of Sedimentary Rocks
(TH) Sept 19	Lab 6: Formation and Classification of Metamorphic Rocks & review of the Rock Cycle
(T) Sept 24	Lab 7: Rock Identification Challenge
(TH) Sept 26	**Exam 1 (labs 1-7)**
PART 2	EARTH'S DEFORMATION & INTERNAL PROCESSES
(T) Oct 1	Lab 8: Introduction to Topographic Maps
(TH) Oct 3	Lab 9: Continental Drift
(T) Oct 8	Lab 10: Plate Tectonics_part 1
(TH) Oct.10	Lab 11: Plate Tectonics_part 2 **HW: Read How Erosion Builds Mountains before Lab 12**
(T) Oct 15	Lab 12: Density, Buoyancy, Isostasy & Convection

PART 3	NEAR-SURFACE AND SURFACE PROCESSES
(TH) Oct 17	Lab13: Hydrologic Cycle
(T) Oct 22	Lab 14: Fluvial Processes that Shape the Natural Landscape
(TH) Oct 24	**Exam 2 (labs 8-14)**
(T) Oct 29	Lab 15: Google Earth (See Appendix C for a tutorial) Note: Begin charting phases of the Moon (See Appendix D)
(TH) Oct 31	Lab 16: Natural Disasters: Flooding and the impacts on society
(T) Nov 5	Lab 17: Earthquakes & Tsunami's
(TH) Nov 7	Place-based prep day
(T) Nov 12	No Class
PART 4	MOTIONS OF THE EARTH-SUN AND EARTH-MOON SYSTEM
(TH) Nov 14	Lab 18: Why is the equator Hotter than the North and South Poles?
(T) Nov 19	Lab 19: Seasons
(TH) Nov 21	Lab 20: Phases of the Moon
Nov 25-29	Thanksgiving Vacation
(T) Dec 3	Place-based project prep day
(TH) Dec 5	Place-based project presentations: Groups 1, 2, 3
(T) Dec. 10	Place-based project presentations: Groups 4, 5, 6
Dec. 12	**Exam 3 (labs 15-21)**