

Course Syllabus – Red Rocks Community College
GEOLOGY OF COLORADO (GEY 205, Section 601; 10733)
Summer 2017 (Fridays June 23, June 30 and July 7): 500pm-1000pm, Room RWE 2573
and
Saturdays June 24, July 1, July 8, 28: 800am-530pm, various locations of geologic interest)

Instructor: Tim Connors (MS Geology, University of Toledo, 1996)
Classroom: Room 2573 West Building
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Office Hours: by appointment

General Course Description:

Covers the geologic history of Colorado and notable geologic features present in the state. Emphasis is on the formation of mountain ranges, significant rock types, ore deposits, fossils, and landforms..

Course Objectives (standards for the Colorado Community College Common Course):

1. Summarize the major tectonic and paleontological events that occurred during the geologic history of Colorado.
2. Identify the significant rock types found in Colorado and explain how they formed.
3. Demonstrate an understanding of stratigraphic principles and geologic time.
4. Explain the origin of the ore deposits in the mining districts of the state.
5. Distinguish between different types of landforms in Colorado and characterize the geomorphic processes responsible for their formation.
6. Describe significant geologic features for which the state is known.
7. Relate the rocks types, geologic structures, stratigraphy, and landforms found in various parts of Colorado to the geologic history of the region.
8. Apply basic geologic principles while observing and analyzing geologic features in a classroom and/or field setting.

REQUIRED Course Materials:

Book: *Messages in Stone: Colorado's Colorful Geology* (2nd Edition, 2009), by Vincent Matthews, published by Colorado Geological Survey, ISBN 978-1-884216-08-4

RECOMMENDED COURSE Materials

Book: *Geology Underfoot along Colorado's Front Range* (2012), by Lon Abbott and Terri Cook, published by Mountain Press Publishing Company, ISBN 978-0-87842-595-2

Book: *Roadside Geology of Colorado*, second edition, by Halka Chronic and Felicie Williams

Foldout: Matthews, Vincent, compiler, 2009, *Tourist Guide to Colorado Geology*: Colorado Geological Survey, 1 sheet containing text and figures

Bring notepaper with a hard surface for writing while standing (clipboard, binder, etc.) and/or a waterproof field notebook, writing implements (pencils/pens/permanent marker), and an eraser with you TO EVERY CLASS MEETING. The suggested textbooks may also be a useful reference at times.

Useful Geology websites:

US Geological Survey: <http://www.usgs.gov/>

American Association of State Geologists: <http://www.stategeologists.org/>

USGS National Geologic Map Database: http://ngmdb.usgs.gov/ngmdb/ngmdb_home.html

Colorado Geological Survey: <http://coloradogeologicalsurvey.org/>

Geology.com: <http://geology.com/>

USGS: Geology of the National Parks: <http://geomaps.wr.usgs.gov/parks/index.html>

Useful National Park Service Websites (for when we visit Rocky Mountain NP and Florissant Fossil Beds NM):

Rocky Mountain National Park: <http://www.nps.gov/romo/index.htm>

Geology Fieldnotes of Rocky Mountain National Park: <http://www.nature.nps.gov/geology/parks/romo/index.cfm>

Florissant Fossil Beds National Monument: <http://www.nps.gov/flfo/index.htm>

Geology Fieldnotes of Florissant Fossil Beds National Monument:

<http://www.nature.nps.gov/geology/parks/flfo/index.cfm>

Geologic Resources Inventory Publications: http://nature.nps.gov/geology/inventory/gre_publications.cfm

Integrated Resource Management Applications (IRMA Portal): <https://irma.nps.gov/App/>

Assignments:

There will be various small research project assignments given prior to our field trips. These will involve conducting research on the geology of various locations as it pertains to geologic age and geologic units present, known geologic maps, and Google earth representation of the sites. Questions will also derive from our field experiences and observations and will be part of the official assignments.

All assignments will be submitted online, via the D2L Dropbox for the class (see below). I will let you know when the assignments are due. **No late assignments will be accepted!** Start early and allow plenty of time in case you run into computer difficulties or have questions you need to ask. Answer keys will be available during class after your work has been returned to you, so that you may correct your answers prior to studying for exams. Also, keep in mind that it is in your own best interest to complete and *understand* all exercises, since some test questions will be based upon them.

Final Exam:

There will be a cumulative final exam covering questions posed from the assignments and on the Geology of Colorado content covered in the field trips. It will be worth 100 total points and will consist of fill-in, true-false, multiple choice and short essay content. It will be a take home exam and you will likely submit back to me electronically via the D2L Dropbox within 2 days of our last class meeting (Monday, July 10, 2017).

Field Trips: There will be mandatory local (Greater Denver metropolitan area) and longer distance field trips (approximately 100-mile radius from campus) during our scheduled class times. You will be required to fill-out and sign a "Student Waiver of Liability Form" to participate in the field trips.

Logistics regarding transportation, safety, meals, suggested items to bring for field trips (sturdy boots, rain gear, sun protection, water, snacks, camera, etc.) and other details will be discussed during our first class meeting. We will be flexible in the order trips are taken based upon weather forecasts and other conditions.

Car-pooling is strongly encouraged, and I will solicit for drivers during our first class meeting.

See the table in the syllabus for a short list of the proposed field trip itineraries and sites to be visited.

Attendance: Because this is an accelerated 3-week course, attending class every day is MANDATORY. If you know you cannot make every class you should drop the class. If you miss even a single class, you lose your participation and attendance points for that day and are likely to ultimately fail the course as a result of this. You also need arrive on time as carpooling will necessitate the group staying together, and you would likely miss important instructions. Repeated tardiness will result in loss of points. Keep in mind that make-ups are not allowed for in-class work or exams, so your grade in the course will most likely be impacted directly if you are tardy. You must let me know in advance if you are going to be tardy for class.

Grading: Multiple components will constitute your final grade.

Attendance and Participation = 20 points maximum

Assignments = 40 points maximum

Final Exam = 40 points maximum

Total = 100 points maximum

Your total number of points will be converted to a percentage and a letter grade will be assigned according to the following scale:

- A: 90-100%
- B: 80-89%
- C: 70-79%
- D: 60-69%
- F: 59% and below.

Incompletes will not be given. Remember, you will receive **ZERO** points for any late or missed assignments, or tests/exams.

Student Conduct and Academic Honesty: Students at RRCC are expected to adhere to the policies for academic integrity and the student conduct code described in the Student Handbook. All students in this class will sign a pledge to be on their honor to do their own work and to follow these policies. There is a zero tolerance policy for any form of academic dishonesty in this course. Disciplinary action will be taken against any student found guilty of academic dishonesty such as cheating or plagiarism. Although you may work on assignments with others, all written work you prepare **MUST** be your own. If your words match those of others, I will assume you copied rather than thinking about the answers yourself. The penalty for being dishonest in this way is far greater than simply getting a wrong answer. If you are unclear whether or not your actions are acceptable, please ask in advance. Any student guilty of any form of academic dishonesty will receive a grade of ZERO for that assignment or exam and will be subject to additional disciplinary action, up to and including failing the course and/or being expelled from the college.

Desire2Learn: Check the course page on “Desire2Learn” (a.k.a. D2L) frequently. I will use it to post course documents (such as this syllabus and assignment instructions) and notifications of immediate interest to you. Also, class work (assignments & research project) must be submitted electronically via the Dropbox, which is also where feedback on these assignments will be given. In addition, you may use D2L to check your grades throughout the semester. Below are some useful hints for using the software.

1. Go to the following web site: www.rrcc.edu and click on **The Rock** link
2. Login using your S# and self-selected PIN. Click the Desire2Learn link found on the Student Tab

New to **The Rock**?

3. Your username is your student ID (S#) you can find this number on your schedule or bill.
4. Your password is the first six characters of the PIN you created when you registered online. If you did not register online, the default PIN is your birthday (MMDDYY).
5. You will be prompted to enter a new strong password.
6. Click login and enter your S# and new password. Select Desire2Learn from the Student Tab

Notes:

- A. Our system performs faster using Mozilla Firefox as the browser
- B. If using Internet Explorer, some files may not open up. To correct the situation:
 1. Launch Internet Explorer
 2. From the Tools menu select Internet Options
 3. Click the Security tab
 4. Click the Custom Level button
 5. Scroll down to “Downloads”
 6. Enable “Automatic prompting for file downloads”

HELPDESK: 1-888-800-9198 or <http://help.cccs.edu>

The 24x7 helpdesk is staffed with people trained to answer questions about: - Log-ins - Registration System - Student email - Desire2Learn

Services for Students with disabilities: Red Rocks Community College is committed to access for students with disabilities. If you are a student with a disability and need assistance or are interested in requesting accommodations, please contact Accessibility Services. Faculty are not obligated to provide accommodations without proper notification by Accessibility Services and accommodations are not retroactive. Students may contact the Access staff by telephone or email to make an intake appointment at 303-914-6733 or access@rrcc.edu. Accessibility Services is located in Suite 1182 at the Lakewood campus. More information is available at <http://www.rrcc.edu/accessibility-services>

Classroom etiquette and policies:

1. Be courteous. Treat me, and your fellow students, with respect, and I will do the same.
2. Get to class on time, do not leave early, and do not be disruptive.
3. Refrain from non-class related work on phones and other electronic devices during class.
4. Refrain from side conversations when the entire class is being addressed by me or by one of your classmates. These are very distracting to everyone.

Students not adhering to these policies are subject to disciplinary action. This may include being asked to leave the class for the day (and not being given the chance to make up what you miss as a result).

How to succeed in this course:

1. Attend class! Arrive on time and pay attention. This is the best way to learn what you need to know and attendance is usually directly linked to grades earned. (See above sections.)
2. Be prepared. Finish reading assignments prior to class. Bring necessary materials with you each day. Ask questions if something is unclear. Participate in class discussions.
3. Take complete and organized notes on all forms of presentation (not just what is written on the screen/board!). Review them regularly.
4. Get help when you need it and get it as soon as you can. Don't fall behind. I am readily available by e-mail and during my office hours or by appointment. If there is a problem, see me as soon as possible.
5. Study hard and don't wait until the last minute to do so. The general rule of thumb is that a student needs to put in 2-3 hours outside of class for each hour spent in class in order to do well.
6. Take advantage of online resources.
7. Get to know some of your classmates. If you are unclear about something, they might be able to help you understand. Study groups may also be effective.
8. Accept responsibility for your learning. I am here to help, but in the end it comes down to you. You *earn* the grades you get, and this means work is necessary in order to succeed.

Syllabus Statement Regarding Mandatory Reporting

Our College is committed to preserving a safe and welcoming educational environment for all students. As part of this effort, I have an obligation to report certain issues relating to the health and safety of campus community members. I must report to the appropriate College officials any allegation of discrimination or harassment. Sexual misconduct, which includes sexual harassment, non-consensual sexual contact, non-consensual sexual intercourse, and sexual exploitation, is considered a form of discrimination.

In addition to reporting all discrimination and harassment claims, I must report all allegations of dating violence or domestic violence, child abuse or neglect, and/or credible threats of harm to yourself or others. Such reports may trigger contact from a College official who will want to talk with you about the incident that you have shared. In almost all cases, it will be your decision whether you wish to speak with that individual. If you would like more information, you may reach the Title IX/EO Coordinator: **Deborah Houser, Assistant Director of Human Resources/Deputy Title IX Coordinator, 303-914-6224 or Deborah.houser@rrcc.edu** Reports to law enforcement can be made at the Red Rocks Campus Police Department behind the Welcome Desk at the Main Entrance or rrpd.dispatch@rrcc.edu at 303-914-6394.

If you would like a confidential resource, please contact **Deborah Houser, Assistant Director of Human Resources/Deputy Title IX Coordinator, 303-914-6224 or Deborah.houser@rrcc.edu**

Further information may be found on the College web site: <http://www.rrcc.edu/human-resources/sexual-misconduct>

“Tentative” Schedule For Summer 2017 Geology of Colorado (GEY 205, 10733-601)

**** this is an ambitious schedule, so we likely won't do everything on the list**

WEEK	DATE	AGENDA
1	6/23	<p>COURSE OVERVIEW; student/faculty introductions; course design, logistics & expectations</p> <ul style="list-style-type: none"> • GEOLOGY 101 PRIMER TO GEOLOGY OF COLORADO • Minerals; rock types (igneous, sedimentary, metamorphic) • Geologic structures (folds, faults) • Plate tectonic boundaries (divergent, convergent, transform) • Concepts of geologic time • Discussion of sites to visit tomorrow; Review topics for tomorrow's field trips; slide show; geologic units and features we'll see <p>URL's of interest for week 1</p> <ul style="list-style-type: none"> • http://geology.com/ • http://dinoridge.org/ <p>Reading assignments for week 1 from Messages in Stone</p> <ul style="list-style-type: none"> • Chapter 1 (pages 1-52) • Chapter 2 (pages 53-99)
1	6/24	<p><u>Greater Metropolitan Denver area</u>**</p> <ul style="list-style-type: none"> • Morrison Fossil Area National Natural Landmark (aka. Dinosaur Ridge) • Golden Fossil Area National Natural Landmark (aka. Fossil Trace / Triceratops Trail) • Red Rocks Park • Interstate 70 Road cut at exit 259 (Morrison) • Rooney Road road cut • Green Mountain • Road cut at Highway 285 and C-470 • Colorado School of Mines Geology Museum • Table Mountain Lava Flows • Lookout Mountain

WEEK	DATE	AGENDA
2	6/30	<p>I. Pre-Cambrian History of Colorado</p> <ol style="list-style-type: none"> Rock units Stratigraphy Tectonic events Paleontology Paleogeography Notable localities for observing features formed during this time <p>II. Paleozoic History of Colorado</p> <ol style="list-style-type: none"> Rock units Stratigraphy Tectonic events Paleontology Paleogeography Notable localities for observing features formed during this time <p>Discussion of sites to visit tomorrow; Review topics for tomorrow's field trips; slide show; geologic units and features we'll see</p> <p>URL's of interest for week 2</p> <ul style="list-style-type: none"> Rocky Mountain National Park: https://www.nps.gov/romo/index.htm Geology of Rocky Mountain National Park: http://nature.nps.gov/geology/inventory/publications/reports/romo_gre_rpt_view_low.pdf <p>Required Readings from Messages in Stone: Chapter 3 (pages 99-116)</p>
2	7/1	<p><u>North: Boulder-Lyons-Estes Park area</u>**</p> <ul style="list-style-type: none"> Coal Creek Canyon Eldorado Canyon Boulder Flatirons / Chataqua Park Lyons (site of flagstone quarries and September 2013 floods) Rocky Mountain National Park (near Estes Park, Colorado)

WEEK	DATE	AGENDA
3	7/7	<p>III. Mesozoic History of Colorado</p> <ol style="list-style-type: none"> Rock units Stratigraphy Tectonic events Paleontology Paleogeography Notable localities for observing features formed during this time <p>IV. Cenozoic History of Colorado</p> <ol style="list-style-type: none"> Rock units Stratigraphy Tectonic events Paleontology Paleogeography Notable localities for observing features formed during this time <p>Discussion of sites to visit tomorrow; Review topics for tomorrow's field trips; slide show; geologic units and features we'll see</p> <p>URL's of interest for Week 3:</p> <ul style="list-style-type: none"> Florissant Fossil Beds National Monument: https://www.nps.gov/flfo/index.htm Geology of Florissant Fossil Beds NM: http://nature.nps.gov/geology/inventory/publications/reports/flfo_gre_rpt_view.pdf Cave of the Winds: http://caveofthewinds.com/ <p>Required Readings from Messages in Stone: Chapter 4 (pages 117-153)</p>
3	7/8	<p><u>South: Colorado Springs-Manitou Springs-Woodland Park-Deckers</u>**</p> <ul style="list-style-type: none"> Garden of the Gods Park Cave of the Winds / Williams Canyon Woodland Park Dinosaur Museum Florissant Fossil Beds National Monument Deckers area / Platte River Canyon
3	7/10	<p><u>FINAL TAKE HOME EXAM DUE AT 2:00 PM via D2L Dropbox</u></p>

Other Important Dates:

Last day to drop and initiate a tuition refund: **Saturday June 24, 2017****

Last day to withdraw ("W" recorded, no refund): **Tuesday July 4, 2017 ****

*** Be sure to consult with appropriate offices on campus, particularly if you receive financial aid or are an international student, as dropping or withdrawing from a course may impact your status.*

Acknowledgment of the RRCC Student Conduct Code:

“I pledge to abide by the RRCC Student Conduct Code. I will be academically honest in all of my coursework and will not tolerate the academic dishonesty of others.”

Signature_____

Date_____

Acknowledgment of Syllabus for this course (GEY 205-601):

“I have received the syllabus and understand the work load, grading policy, responsibilities, and expectations for this class.”

Signature_____

Date_____

ALSO INSERT STUDENT WAIVER ON NEXT PAGE AS END OF SYLLABUS

Student Waiver of Liability Form

Many of the classes taught by the science department at Red Rocks Community College include field trips or other off-campus activities. In order to participate in these activities, you must read the information below and sign and return the form. This waiver applies to all such activities in the class listed below.

Course # _____ Term _____ CRN# _____

Red Rocks Community College is an Institution of Higher Education in the State of Colorado, and, as such, is covered by the Colorado Governmental Immunity Act. CRS 24-10-101. This law provides that the state and its institutions are immune from lawsuits for injuries suffered by private persons, except in specific situations listed in the law, where immunity is waived. Voluntary participation by students in field trips and non-classroom activities conducted by a state-funded institution of higher education is not one of the areas where immunity from liability is specifically waived. In other words, by law, if a student suffers an injury as a result of participation in field trips and non- classroom activities of the college, the college is immune from fiscal liability for such injury. For this reason, students are strongly encouraged to obtain medical insurance coverage, if they do not already have coverage, before participating in these activities. Students are also encouraged to read the applicable statutes cited above.

In consideration of the right to participate in field trips and non-classroom activities, and the services arranged for me by Red Rocks Community College and their agents, I have and do hereby assume all risks and will hold them harmless from any and all liability, actions, causes of action, debts, claims and demands of every kind and nature whatsoever which I now have or which may arise from or in connection with my participation in activities arranged for me by Red Rocks Community College or its agents. The terms hereof shall serve as a release and assumption of risk for my heirs, executors and administrators and all members of my family.

In signing below I hereby assert that:

1. I have read this document and been informed of possible activities to which it applies;
2. I understand the Red Rocks Community College is covered by the Colorado Governmental Immunity Act;
3. I am personally liable for injuries that I may suffer as a result of participation in any field trips of out of classroom activities associated with this class;
4. I understand that alcohol, weapons and drugs are prohibited at all college-sponsored activities.

I agree to abide by all rules, policies, procedures, codes of conduct, and other guidelines that apply to my participation in these activities.

Student Name (Print)

Student Signature

Date