GEOLOGY 1030
Survey of Geology

Semester/Year of Course
Section # and Class Meeting Times

Instructor Information:

Name, Rank, and Title
Office Location
Office Hours
Academic Advising Hours (2 per week for full-time faculty)
Office Phone Number and E-mail Address

Credit Hours: 4.0

Prerequisites: Exemption from or completion of ENGL 0810, READ 0810 and MATH 0810.

Catalog Description: This course focuses upon the earth’s structure, function, physical processes, and location in space. Emphasis is given to the external and internal forces that mold the face of the earth and its atmosphere

Required Texts:

Supplemental Materials: Colored pencils

Lab Requirements:

Program Learning Outcomes: After completing the requirements of the Survey of Geology class, students will be able to:
1) Explain the ways geology influences the distribution of natural resources
2) Discuss ways geology controls where it is safe to live
3) Discuss things we can learn about Earth’s past by observing its landscapes, rocks, fossils, and processes
4). Enumerate some of geology’s related disciplines and the ways they and geology are interconnected globally, regionally, and locally

Student Learning Outcomes:
By the end of the course, students will be able to:

1: List and understand the sciences traditionally included in Earth science.
2: Summarize some of the relationships between people and the natural environment.
3: Describe the nature of scientific inquiry and list the basic steps of the scientific method.
4: Summarize the early evolution of Earth in order to understand Earth's place in the Universe.
5: Describe how we learn about the Earth and provide examples of Earth spheres at work.
6: Explore the Geosphere and become familiar with Earth's physical features.
7: Investigate Earth system science.
8: Explain the difference between a mineral and a rock.
9: Describe the basic structure of an atom and how atoms relate to elements, ions, compounds, and isotopes.
10: Describe the physical properties of minerals and how they can be used for mineral identification.
11: List the most important elements and rock-forming minerals that compose Earth's continental crust.
12: List the basic compositions and structures of the silicate minerals.
13: Give examples of the economic use of some non-silicate minerals and distinguish between mineral resources, reserves, and ores.
14: Diagram the rock cycle and discuss the geologic processes and energy sources that contribute to each rock group.
15: List some of the most common igneous rocks and use them to explain how igneous rocks form and are classified.
16: Briefly explain the origin, compositional variations, and crystallization of magma and the distribution of igneous rocks.
17: Provide examples to compare and contrast the most common detrital and chemical sedimentary rocks and their environments of formation.
18: Classify the most common metamorphic rocks according to how the rocks form and their textures.
19: Understand the importance of rocks and how their characteristics provide clues to geologic events and as indicators for exploration of metallic and nonmetallic mineral resources.
20: Define and describe the processes of weathering and erosion, including examples of negative and beneficial effects of these processes.
21: Use examples to explain the difference between mechanical and chemical weathering and the variation in the rate of weathering.
22: Discuss soil composition, texture, structure, formation, and classification.
23: Provide examples of various types of mass wasting and describe the controls and triggers of this process.
24: Describe the distribution of H₂O within the Hydrosphere and the movement of H₂O through the hydrologic cycle.
25: Describe the process of streamflow and the factors influencing stream erosion, transportation, and deposition.
26: Give examples illustrating the connection between landscape features and runoff including channels, stream valleys, flooding events, and drainage patterns.
27: Discuss the occurrence and movement of groundwater.
28: Explain unique features and environmental concerns associated with groundwater and the use of groundwater as a nonrenewable resource including: subsidence, contamination, and sinkholes.
29: Define the key term glacier including examples of different types and the locations where they are found.
30: Discuss glacial movement and investigate the budget of a glacier.
31: Describe the features produced by glacial erosion and deposition.
32: Examine the causal theories of glacial ages including the glacial events of the Pleistocene epoch.
33: Discuss geological processes in arid climates, including the development of the Basin and Range region and examples of erosional and depositional features produced by wind and water.
34: Define earthquake including key terms used to describe the causes and results.
35: Compare and contrast the properties of different types of seismic waves.
36: Examine the worldwide distribution of earthquakes including how scientists determine the location and size of the earthquake.
37: Explain earthquakes as natural hazards and list other destructive phenomena related to earthquakes.
38: Compare and contrast the scientific ideas and definitions for the continental drift hypothesis and the theory of plate tectonics.
39: Explain the differences among divergent, convergent, and transform plate boundaries, including the major processes that occur at these boundaries.
40: List and describe the evidence used to support the Plate Tectonics theory.
41: Describe the models that have been proposed to explain the driving mechanisms for plate motion.
42: Describe Earth's interior structure and composition.
43: List the factors that contribute to and determine the violence of volcanic eruptions.
44: Describe the various types of volcanoes and other features produced by volcanic activity including materials extruded and hazards associated with eruptions.
45: List and describe several intrusive igneous features.
46: Discuss the role of heat, pressure, and composition (including volatiles) in the origin of magma.
47: Describe the relationship between igneous activity and plate tectonics.
48: Discuss rock deformation and list the factors that influence the strength of a rock.
49: List the major types of folds and faults and describe how they form.
50: Provide examples of the association between mountains and plate tectonics, including convergent boundaries.
51: Describe the process of isostasy and the role of isostatic adjustment during changes in crustal elevations.
52: Explore the contributions of prominent scientists to the science of historical geology, including the doctrine of uniformitarianism.
53: Give the definitions of numerical and relative dating and apply relative dating techniques to understand how scientists reconstruct Earth's history.
54: Explain radioactivity and radiometric dating.  
55: Describe the development and application of the geologic time scale.  
56: Understand the complex history of the geologic past by using the Geologic Time Scale. List significant geologic, biologic, and special events for each Era, including the largest span of geologic time during the Precambrian Era.  
57: List the principal developments during the Paleozoic Era, including significant geologic, biologic, and special events.  
58: List the principal developments during the Mesozoic Era, including significant geologic, biologic, and special events.  
59: List the principal developments during the Cenozoic Era, including significant geologic, biologic, and special events.  

Student Objectives:  
Throughout the course, students will have the opportunity . . .  
1) To attend all lectures and labs, fully participating in all  
2) To spend time outside class for independent study  
3) To diligently study texts and notes  
4) To seek outside help and guidance from the instructor, as needed  
5) To demonstrate a working knowledge of the processes of geology and the impacts of those processes on humans’ lives every day  

Major Assignments and Method for Calculating the Final Grade: Assignments will include exams, quizzes, in-class activities, and lab activities, all worth a pre-determined amount of points. At semester’s end, the total number of points earned is divided by the total number of points possible to determine the final grade.  

Points breakdown:  
200 points (Midterm & Final Exams)  
100 points (Classroom capstone assignment, such as a field excursion report or a research paper assignment; this varies)  
1,000 points (Class and Lab Activities)  
1,300 points  

Grading Policies:  
Grading Scale: The final grade scale for the class will be as follows, based on the total points available divided into the total points earned:  
A: 90-100  
B: 80-89  
C: 70-79  
D: 60-69  
F: <60  

MAKE-UP WORK POLICY: There is NO, I repeat NO makeup work unless you have a *legitimate reason for being unable to attend class when a quiz/test is given.  

*These would include a death in the immediate family (funeral program should be provided), an auto accident (copy of accident report or other valid verification), or a documented illness requiring extended absence from class (provide a letter from the
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physician). It is the student’s responsibility to approach the professor with the documents which will excuse the absence. I will not ask for the documentation.

**Course Policies:** (as follows…)

**Academic Misconduct Policy:**
Plagiarism, cheating, and other forms of academic dishonesty are prohibited. Students guilty of academic misconduct, either directly or indirectly, through participation or assistance, are immediately responsible to the instructor of the class. Based on their professional judgment, instructors have the authority to impose the following academic sanctions: (a) require the student to repeat the assignment for full or partial credit; (b) assign a zero, an F, or any other grade appropriate for the assignment or examination; (c) assign an F for the course. In addition, disciplinary sanctions may be imposed through the regular institutional procedures. For more information, see MSCC Policy 3:02:00:03.

**Class Cancelation Policy:**
“If class is cancelled for any reason, you will be notified via your Motlow e-mail address and/or the D2L e-mail address and will be told there how to prepare for the next class period. For these reasons, students are advised to take advantage of the Motlow Rave system in order to receive text messages when class is canceled. For more information, see [https://www.getrave.com/login/mscc](https://www.getrave.com/login/mscc).”

**Classroom Misconduct Policy:**
The instructor has the primary responsibility for maintenance of academic integrity and controlling classroom behavior, and can order temporary removal or exclusion from the classroom of any student engaged in disruptive conduct or conduct that violates the general rules and regulations of the institution for each class session during which the conduct occurs. Extended or permanent exclusion from the classroom, beyond the session in which the conduct occurred, or further disciplinary action can be effected only through appropriate procedures of the institution.

Disruptive behavior in the classroom may be defined as, but not limited to, behavior that obstructs or disrupts the learning environment (e.g., offensive language, harassment of students and professors, repeated outbursts from a student which disrupt the flow of instruction or prevent concentration on the subject taught, failure to cooperate in maintaining classroom decorum, etc.), text messaging, and the continued use of any electronic or other noise or light emitting device which disturbs others (e.g., disturbing noises from beepers, cell phones, palm pilots, lap-top computers, games, etc.). For more information, see MSCC Policy 3:02:00:03.

**Laptop computers:** Laptop computers may be used in the classroom to take notes or for other uses authorized by the instructor. The use of the laptop is restricted to these purposes. Instant messaging, game playing, and internet surfing will be prohibited by the instructor. You will need to talk to me in advance about bringing a laptop to class. In addition, the policy may be modified at any point in the semester if misuse of the devices
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becomes a problem. As with the cell phones, texting or e-mailing others is a cause for dismissal.

**Cell phones:** NOT ALLOWED TO BE OUT DURING CLASS. THEY WILL BE CONFISCATED THE FIRST TIME; THEREAFTER, THE STUDENT WILL BE DISMISSED FROM CLASS AND WILL RECEIVE A GRADE OF "0" FOR THAT DAY'S ACTIVITIES AND ATTENDANCE.

Electronic devices and academic dishonesty: The potential for academic dishonesty with various devices will be evaluated by the instructor. As a result, the use of electronic devices may be banned or limited as determined appropriate. Instances in which an electronic device is instrumental in an act of academic dishonesty will be handled with reference to Motlow Policy 3:02:00:03. For example, cell phones with text messaging or photo/video capabilities could be used for cheating on examinations. **Students with cell phones or other electronic devices in hand, on the desk, or otherwise (such as in lap) visible during an examination will bring suspicion and possible charges of violating Motlow policy and, as mentioned above, may be dismissed. Certainly, the grade for the activity will be absolutely an F.**

Electronic devices and illegal activities: The instructor will prohibit activities that violate laws, such as intellectual property rights or copyrights and invasions of privacy or sexual harassment. These activities may include taking inappropriate photos without the subject’s permission. Students are not to film classes, others' presentations, lectures, etc., without permission. These violations will be handled according to Motlow Policy 3:02:00:02—Student Disciplinary Policy-Part 2 Disciplinary Offenses.

Students are subject to all national, state, and local laws and ordinances. Students are required, as a condition of good standing and continued enrollment, to maintain appropriate standards of personal conduct in compliance with the rules and regulations described in the official college catalog (http://catalog.mscc.edu/). **Behavior that is judged by the instructor to affect adversely the college’s pursuit of its educational objectives or violates the rights of others will not be tolerated** and may subject the offending to student to immediate removal from the class, further institutional disciplinary action, or report to law enforcement officials. All such infractions will be documented and filed with appropriate campus personnel. Examples of disciplinary offenses include but are not limited to conduct or threat of conduct that is dangerous to others, hazing, disorderly conduct (defined as any behavior that is abusive, obscene, lewd, indecent, violent, excessively noisy, disorderly or which unreasonably disturbs other groups or individuals), obstruction or interference with institutional activities or facilities, misuse of or damage to property, theft or misappropriation of institutional property, misuse of documents or identification cards, possession of explosives, firearms or other dangerous weapons while on campus (except for law enforcement officers, even individuals with handgun permits may not carry handguns onto Motlow campuses), and possession or under the influences of alcohol or drugs while on campus, and gambling. The instructor has primary responsibility for control over classroom behavior and
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maintenance of academic integrity and can order the temporary removal or exclusion from the classroom of any student engaged in disruptive conduct or conduct violating the rules and regulations of the institution. Extended or permanent exclusion from the classroom or further disciplinary action may be effected through the appropriate procedures of the institution.

Athletes: I will make a point of contacting coaches if I think it is necessary. Period. The athletic teams represent the college in a variety of venues and should strive for exemplary behavior on AND off the courts and fields.

**Emergency Procedures Policy:**
In case of a medical emergency we will immediately dial 9-911 and report the nature of the medical emergency to emergency response personnel. We will try to stay with the person(s) in need and maintain a calm atmosphere. We will talk to the person as much as possible until response personnel arrive on campus, and we will have someone go outside to meet emergency personnel and direct them to the appropriate location.
In the event of an emergency (drill or actual), a signal will be sent. Based on that signal, students will follow the procedures below for that specific type of emergency:

- **Loud warbling sound throughout Building (FIRE):**
  Collect purses and coats and proceed immediately out of your room and exit through the closest emergency exit. Proceed to the Designated Assembly Area closing windows and doors as you exit. Remain there until the "All Clear" Signal is given by an Emergency Management Team member. (Instructors- Provide your Designated Assembly Area, and its location to students)

- **Tornado Siren (SEVERE WEATHER):**
  Proceed to the closest designated severe weather shelter on the 1st floor and proceed all the way into the shelter. Crouch down on the floor with your head between your knees facing away from the outside walls. Remain there until the "All Clear" Signal is given. (Instructors- Provide the recommended room number or hallway location to students)

- **Air Horn (1 Long Blast) and Face to Face All Clear (INTRUDER/HOSTAGE):**
  Ensure door is closed, locked and lights turned off. If your door will not lock, move some tables and chairs in front of the door quickly. Move immediately to the rear of the room away from the door and sit on the floor- out of sight if possible. Remain calm and quiet and do not respond to any inquiries at the door unless you have been given the "All Clear" and a member of law enforcement or your campus Emergency Management Team member makes face-to-face contact at your door.

**Classroom Locked-door Policy:**
In order to adhere to MSCC Emergency Preparedness Policy and to facilitate effective classroom management, the classroom door will remain closed and locked for the duration of the class period.

**Educational Technology:**
Accessing Campus Computers or the MSCC Library from off Campus:
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Your Username format is your First Initial, Last Name and Month and Day Birthday in the Format of MMDD. Example: Marcia Smith born on April 11, 1992 - Username: msmith0411. Your Pin will be the numeric pin you created when you initially applied to Motlow College.

Using D2L:
For help with D2L including how to submit materials to a Dropbox, see this page: http://www.mscc.edu/techtube.aspx (Professors may participate at their discretion though not all will be doing so. It is best to check with your specific professor.)

Technical Support/Assistance:
Students having problems logging into a course, timing out of a course, using course web site tools, or any other technical problems, should contact the MSCC Technology Help Desk at 931-393-1510 or toll free 1-800-654-4877, Ext. #1510 (or d2lhelp@mscc.edu)

Disability Services/Accommodations:
Motlow College is committed to meeting the needs of qualified students with disabilities by providing equal access to educational opportunities, programs, and activities in the most integrated setting appropriate. This commitment is consistent with the College's obligations under Section 504 of the Rehabilitation Act of 1973 and the American with Disabilities Act of 1990 (ADA). Together, these laws prohibit discrimination against qualified persons with disabilities. To this end, the Director of Disability Services for Motlow College coordinates services and serves as an advocate and liaison for students with disabilities attending Motlow College. Contact the Director of Disability Services here: http://www.mscc.edu/disability/index.aspx.

Students with disabilities who would need assistance in an emergency evacuation should self-disclose that need to the instructor no later than the second day of class or second group meeting.

Confidentiality of Student Records:
The education records of current and former students at Motlow State Community College are maintained as confidential records pursuant to The Family Educational Rights and Privacy Act (FERPA) of 1974 as amended. For further information, see MSCC Policy No. 3:02:03:00.

Student Success:

Due to unprecedented growth of our student population, we now have a host of support systems to enable a student's college experience to be the best and most successful experience possible. Please do not hesitate to request assistance with anything that might be problematic, personal or academic, and we have staff members who can help you.
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Tutoring:
MSCC Instructors can guide students to specific resources regarding Tutoring in their discipline. In particular, students may find help with Math and Essay Writing via each campus’ Learning Support labs. Students should contact the labs on their campus to schedule appointments for help. For additional help, see the Student Success page: http://www.mscc.edu/student_success/index.aspx

Academic Advisement:
MSCC Instructors can guide students to specific resources regarding Advisement. For additional help, see the Academic Advisement page: http://www.mscc.edu/advisement/index.aspx

Tentative Class Schedule:
A simple schedule will be provided in the syllabus and may be subject to change, but it is a basic outline for the course.

REMEMBER:
Our students ARE our successes! We are here to assist you if you need help with anything during your semesters at Motlow.