

# GEOLOGY 111 (701) –THE EARTH – 3 HOURS

Spring 2023

Dr. Margaret E. Crowder

## COURSE DESCRIPTION

This course fosters the skills that lead to an understanding of natural aspects and environments of the Earth, scientific methods and basic geological principles. In particular, this course explores the interaction among geology, people and environment including Earth materials, internal and external physical, chemical and bio-geological processes that are responsible for forming and shaping the Earth, and Earth's evolution through deep times and present geologic time.

Everything that comprises our knowledge of energy/environment and the political, economic, societal concerns that surround them encompasses all of Geology spanning huge time frames starting 4.5 billion years ago to the unforeseeable future. This class can prepare you for a future career in the geological sciences (industry, teaching, research, and many others) and gives you the background information needed to make educated decisions regarding our planet.

**General Education requirements:** GEOL 111 is an introductory core course with co-requisite lab component for Geology Majors, Minors, and prospective science teachers, and students in allied sciences or other technical areas that fulfills Category D general education course goals and objectives. GEOL 111 satisfies Gen Ed Category D for all students returning to WKU after previously attending. **Colonnade Program requirements:** GEOL 111 also satisfies WKU's Colonnade Program's requirements for the Natural and Physical Sciences subcategory of the Explorations Category for those students attending WKU for the first time in Fall 2014 (including transfer students) who are under the F14 catalog requirements.

Colonnade Learning Objectives: This course fulfills Colonnade Program's four learning objectives which are as follows:

1. Demonstrate an understanding of the methods of science inquiry.
2. Explain basic concepts and principles in one or more of the sciences.
3. Apply scientific principles to interpret and make predictions in one or more of the sciences.
4. Explain how scientific principles relate to issues of personal and/or public importance.

## LEARNING and CONTENT OBJECTIVES

The learning and content objectives for GEOL 111 are designed to fully integrate fully with the Colonnade Program. Upon successfully completing this course, students will be able to:

1. articulate an understanding of the scientific method and knowledge of natural science and its relevance in our health, well-being, and quality of life.
2. develop a capacity for critical and logical thinking.
3. understand and apply mathematical skills and concepts to science.
4. effectively express themselves in written and oral form on topics of geology and inter-related science sub-disciplines (chemistry/physics/biology).
5. demonstrate the ability to think critically about natural processes and their social and economic issues through either writing or discussion.
6. locate and use information on geology and the natural sciences on topics from a variety of sources, which could include peer-reviewed literature and popular public media electronic sources.
7. demonstrate ability to quantitatively and qualitatively describe the interactions of Earth Systems and their impact on weather, past- present- and future- climate, biodiversity, provenance, and landform formation.
8. demonstrate the ability to integrate knowledge of data analysis and their significance in a coherent and meaningful manner.
9. critically evaluate data from a variety of sources and understand their limitations and inherent errors.

**Corequisite:**

Geology 113, Physical Geology Laboratory (1 credit hr.). *Those students enrolled in Geology 111 should also be enrolled in Geology 113 in order to receive full General Education/Colonnade credit in the appropriate category.*

**Course Location and Meeting Time:** Synchronous online via Zoom, TR 9:35-10:55am

**Office, Office Hours:**

Office: EST, Room 429; Office hours are online (see below) or in person and by appointment.

E-mail: [Margaret.Crowder@wku.edu](mailto:Margaret.Crowder@wku.edu)

Phone: 745-5973

Office Hours: MW 2-3pm. Please email to set up meetings in advance and specify Zoom or in person. \*Other times available by appointment\*

**Required Text:** Tarbuck, Lutgens, Tasa. *Earth: An Introduction to Physical Geology, 13<sup>th</sup> Edition*. Boston: Pearson. (This text may be purchased as a bound book, loose-leaf, or as an e-text; e-text is included with Big Red Backpack – see below.)

**Additional Requirement:** Access to Mastering Geology website, included with the Big Red Backpack program (instructions will be given in class and via Blackboard on how to access this).

**Big Red Backpack:** See the following for more information - <https://www.wku.edu/bigredbackpack/>

**Special Instructional Materials:**

A computer with Internet access is required for this course. Use of iPhone, Android, and related devices are *\*not\** acceptable, as there is much content that may not be accessible through the web browsers available on these platforms. Because it is essential that you have access to a computer and the internet, it is required that you identify at least one backup computer with internet access in case you have problems with your personal equipment (**\*any equipment problems will not be considered a valid excuse for missing assignments\***). For example, the WKU student computer labs and most public libraries have computers with internet access.

**Academic Honesty:** Students are required to follow the WKU student code of conduct for academic honesty. <http://www.wku.edu/judicialaffairs/student-code-of-conduct.php>

**No plagiarism or cheating will be tolerated. Evidence of cheating and/or plagiarism may result in failure of the class and/or dismissal from the University.** Each student is responsible for understanding what constitutes plagiarism. <http://www.wku.edu/csa/policies/plagiarism.php>

**Privacy Policy and Internet Security:** Though this is an in-person class, some of the work in this class is through Blackboard and Zoom. Your WKU NET ID and password will give you access to Blackboard and provide a measure of privacy protection of the course content and your grades. **Do not share your ID or password or the Zoom link for the course with anyone.** If using a public computer (for example, at a hotel or library), you must log out and completely close the browser software when finished. This will prevent another person from accessing the course using your identification, doing mischief in your name, and violating the privacy of other students. You are expected to represent your identity in a truthful manner. To access any course Zoom materials, you will need to log in to Zoom through your WKU account for verification of your identity. Falsifying your identity is grounds for disciplinary action of all parties involved.

**Attendance Policy:** Registration in this course means that you are serious about being on time and that you are an active participant. Your regular attendance and active participation in this class are essential for your success. I certainly expect that you will attend class - you are, after all, paying for this course (!) - and I will be taking roll to document your attendance. Attendance counts toward assessment of this course (see below).

**A note about attendance points:**

0-3 absences = receive the full 25 possible points

4-7 absences = receive 12 points

8+ absences = receive 0 points

Absences refer to total number of unexcused absences. It is your responsibility to keep track of the number of your class absences! **Attendance means that you are present at the start of the class** when the roll is taken (tardiness will not be tolerated!) **and that you are an active participant in class. This includes such things as answering online polls, taking part in discussions, and turning your camera on for participation.**

**Excused absences will only be considered if written documentation is presented.** In the case of family emergencies, a note from a parent or other responsible party may be accepted if it contains a phone number by which I may verify your excuse. Please communicate with your instructor if there are extenuating circumstances. If you must leave class early, notify your instructor before class begins.

The U.S. Department of Education requires that distance education courses must include regular and substantive interaction between students and faculty. For more information about Regular and Substantive Interaction at WKU, please visit the [Regular and Substantive Interaction in Online and Distance Learning webpage](#). In this course, regular and substantive interaction will take place in the following ways:

- Weekly synchronous online course meetings
- Regular announcements and updates
- Online assistance to answer questions and provide feedback

### **College of Science and Engineering Student Course Attendance Statement**

The faculty and staff of the College of Science and Engineering are committed to providing you with learning experiences and opportunities. You must assume ownership of your education and be an active participant in the classroom and laboratory to take advantage of these opportunities. **Active participation requires you to attend.** Scientific studies have shown that attendance during scheduled classroom and laboratory meetings is directly correlated to your performance on assignments and exams and the potential to earn higher grades. Additionally, if you do not regularly attend class, you are missing important information about course topics, due dates, and assignment details that are crucial to your success in the course. Therefore, as a student enrolled in course in this college, you are expected to attend every class meeting and to inform your instructor regarding the reasons for any absences as soon as practical. Your instructor may incorporate class attendance/participation as part of the grading criteria.

**Student Behavior:** Students are expected to assist in maintaining a classroom environment that is conducive to learning. In order to assure that all students have the opportunity to gain from time spent in class, unless otherwise approved by the instructor; students are prohibited from engaging in any other form of distraction. Inappropriate behavior in the classroom shall result, minimally, in a request to leave class. All incidents of inappropriate behavior will be reported to the department and/or the Dean of the College of Science and Engineering.

**University Statement on COVID:** All students are strongly encouraged to [get the COVID-19 vaccine](#). In accordance with WKU policy, all students must call the WKU COVID-19 Assistance Line at 270-745-2019 within 4 hours of testing positive for COVID-19 or being identified as a close contact to someone who has tested positive. The COVID Assistance Line is available to answer questions regarding any COVID-19 related issue. This guidance is subject to change based on requirements set forth by federal, state, and local public health entities. Please refer to the Healthy on the Hill website for the most current information. [www.wku.edu/healthyonthehill](http://www.wku.edu/healthyonthehill)

**Email:** I view my email at least twice a day (once in the morning and once in the afternoon). I will make every attempt to reply to your email within 48 hrs (This does not include weekends.). If you send me an email, it should contain the following:

Subject line: descriptor of nature of email; include course number  
Salutation: Dr. Crowder,  
Body of email: brief statement/description of your question/request  
Closing: Sincerely/Regards/etc., (your name)

**Assessment:** Your understanding of course materials will be assessed on the basis of exams and quizzes as categorized below:

	Percent of Grade
Exams (3)	45%
Quizzes (11, lowest may be dropped)	12.5%

Final Exam (not comprehensive)	15%
Homework, class assignments, and participation (includes Mastering work and other various assignments)	25%
Attendance	2.5%
<b>TOTAL</b>	100%

**Grades will be determined by the following guidelines:**

A = 90% and above    C = 70-79%    F = 59% and below  
 B = 80-89%    D = 60-69%    FN = check with Registrar for full definition

Grades will not be ‘curved’. NO individual extra credit will be assigned. No exceptions!

**FYI: An “A” requires *extra effort* and to earn one is a great honor.** Doing the bare minimum will not result in an “A.” Students who earn “A’s” are attentive, never (or very rarely) miss class, are prepared for the lecture, score the highest on exams, are leaders in discussions, and put extra effort into their assignments. Do not underestimate the amount of time you will need to devote to studying for this class. Just because it is a 100-level course, does not mean it is easy.

**Make a habit of checking Blackboard for course announcements, material, and information**

**Nature of the Exams and Quizzes:** Exam questions may consist of a combination of multiple choice, matching, fill-in-the-blank, short answer and drawing questions. These questions will come primarily from the lecture and the textbook but may also come from any supplemental materials handed out or shown during class. Additionally, there will be quizzes given over the course of the semester - generally once a week other than weeks with exams scheduled. Quizzes will be online and must be completed within the times and days indicated for the assignment on Blackboard. Exams will be available online for limited periods of time on Exam days and must be completed within the range of times indicated.

**Make-up Policy:** **Exams will generally not be given after the day they are scheduled, nor will assignments be accepted late.** In other words, **only under exceptional circumstances will there be any “make-up” opportunities for missed exams and assignments.** If you are aware of a schedule conflict that prohibits you from taking an exam or from turning in an assignment, you *must* inform me *prior* to test/assignment due date. **In the case of illness, make-up exams will only be made available to those that provide a valid written excuse. Written excuses must be provided *before* any make-up exam will be administered!** Arrangements for make-up work must be made as soon as possible (preferably prior to the next class meeting). **Quizzes may NOT be made up** as the lowest grade is dropped anyway.

**Schedule Change Policy:** The Department of Earth, Environmental, and Atmospheric Sciences strictly adheres to University policies regarding schedule changes. It is the sole responsibility of individual students to meet all deadlines in regard to adding, dropping, or changing the status of a course. Only in exceptional cases will a deadline be waved. The Student Schedule Exception form is used to initiate all waivers. This form requires a written description of the extenuating circumstances involved and the attachment of appropriate documentation. Poor academic performance, general malaise, or undocumented general stress factors are not considered as legitimate circumstances.

**ADA Accommodation Statement:**

In compliance with University policy, students with disabilities who require academic and/or auxiliary accommodations for this course must contact the Student Accessibility Resource Center located in Downing Student Union, Room 1074. The SARC can be reached by phone number at 270-745-5004 [270-745-3030 TTY] or via email at [sarc.connect@wku.edu](mailto:sarc.connect@wku.edu). Please do not request accommodations directly from the professor or instructor without a faculty notification letter (FNL) from The Student Accessibility Resource Center.

**Title IX/Discrimination & Harassment:**

Western Kentucky University (WKU) is committed to supporting faculty, staff and students by upholding WKU’s [Sex and Gender-Based Discrimination, Harassment, and Retaliation](#) (#0.070) and [Discrimination and Harassment](#)

[Policy](#) (#0.2040). Under these policies, discrimination, harassment and/or sexual misconduct based on sex/gender are prohibited. If you experience an incident of sex/gender-based discrimination, harassment and/or sexual misconduct, you are encouraged to report it to the Executive Director, Office of Institutional Equity/Title IX Coordinator, Ena Demir, 270-745-6867 or Title IX Investigators, Michael Crowe, 270-745-5429 or Joshua Hayes, 270-745-5121. Please note that while you may report an incident of sex/gender based discrimination, harassment and/or sexual misconduct to a faculty member, WKU faculty are “Responsible Employees” of the University and MUST report what you share to WKU’s Title IX Coordinator or Title IX Investigator. If you would like to speak with someone who may be able to afford you confidentiality, you may contact WKU’s [Counseling and Testing Center](#) at 270-745-3159. See the following link for [Sexual Assault Resources](#)

**The Learning Center Peer Tutoring Services:** The Learning Center (TLC) provides free tutoring services that empower students to achieve academic success. Trained peer tutors are available to review course content, answer questions, and demonstrate effective study strategies. TLC offers individual appointments and group sessions (PASS) for hundreds of undergraduate courses. For more information or to make an appointment, visit [www.wku.edu/tlc](http://www.wku.edu/tlc).

**Writing Center Assistance:** The Writing Center on the Bowling Green campus will have writing tutors available to offer advice to current WKU students on any stage of their writing projects. In-person tutoring is available in Cherry Hall 123 from 10-4 Monday through Friday and in the Cravens Commons (at the horseshoe-shaped reference desk) from 5-9 on Sunday through Thursday evenings. WKU students may also request feedback on their writing via email or arrange a real-time Zoom conference to discuss a paper. See instructions and how-to videos on the website ([www.wku.edu/writingcenter](http://www.wku.edu/writingcenter)) for making appointments. Walk-in feedback is available unless we are booked up. Students may also get short writing questions answered via email; just put “Quick question” in the subject line to ([writingcenter@wku.edu](mailto:writingcenter@wku.edu)).

The WKU START Centers will be offering writing tutoring sessions via Zoom as well as in person in their Glasgow and Elizabethtown locations. More information on how to make appointments and what to expect from your appointment will continue to be posted at (<https://www.wku.edu/startcenter/>).

**The WKU Center for Literacy** is located in Gary A. Ransdell Hall 2066. At the Center for Literacy, students can receive assistance in developing strategies to help with **reading/studying to learn** and **writing for evidence and argument**. The Center for Literacy offers both individual and small group sessions throughout the semester. Please email us at [literacy.center@wku.edu](mailto:literacy.center@wku.edu) to schedule an appointment or ask questions, visit our website at <http://www.wku.edu/literacycenter/>, or stop by GRH 2066 for more information.

**Strategies for Student Success:** Effective study takes time. Success at the college level probably will require more time, and more careful use of time, than many students expect. An oft-quoted rule of thumb is that *students should spend two hours outside of class for every hour spent in class*. Do you? If you have questions about how to take better notes, or learn more effectively, here’s an excellent website for suggestions on how to achieve academic success: <http://slc.berkeley.edu/study-and-success-strategies>

### General Comments

The lecture materials will very closely follow the textbook order, although we will be jumping around a bit. In order to do well in this course, you must spend some time - every week - studying your notes and working with the available course materials. Get in the habit of regularly spending time on all aspects of the course – it will pay off in the end both in terms of your grade and your comprehension of course materials.

**\*NOTE: This syllabus functions rather like a contract. By remaining enrolled in this class, it is understood that it is your responsibility to read, understand, and adhere to the policies herein. The instructor will inform you as to any policy or scheduling changes and it is your responsibility to make these adjustments.**

**HAVE A GOOD SEMESTER!**

### Geology 111 – General Course Outline\* - Spring 2023

Date	Day	Topic	Chapter(s)
17-Jan	Tuesday	Intro/What is Geology?/Scientific method	1; 22; 12
19-Jan	Thursday	Birth of the Earth/Earth's structure	12
24-Jan	Tuesday	Plate tectonics	12; 2
26-Jan	Thursday	Plate tectonics/Paleomagnetism	2; 12
31-Jan	Tuesday	Plate Tectonics	2; 13; 14
2-Feb	Thursday	Basic chemistry/Minerals	3
7-Feb	Tuesday	Minerals	3
9-Feb	Thursday	<b>EXAM 1</b>	
14-Feb	Tuesday	Rock Cycle/Igneous Rocks & Processes	1; 4
16-Feb	Thursday	Igneous Rocks & Processes	4
21-Feb	Tuesday	Volcanoes	5
23-Feb	Thursday	Weathering Processes	6
28-Feb	Tuesday	Weathering Processes/Mass Movement	6; 15
2-Mar	Thursday	Sedimentary Rocks	7
7-Mar	Tuesday	<b>EXAM 2</b>	
9-Mar	Thursday	Sedimentary Environments	7
14-16 Mar	Tue-Thur	<i>Spring Break Week - No class</i>	
21-Mar	Tuesday	Metamorphic Rocks/Metamorphism	8
23-Mar	Thursday	Metamorphism	8
28-Mar	Tuesday	Earthquakes	11
30-Mar	Thursday	Earthquakes	11
4-Apr	Tuesday	Geologic Time/Stratigraphy	9
6-Apr	Thursday	<b>EXAM 3</b>	
11-Apr	Tuesday	Deformation: Folds/Faults/Structures	10
13-Apr	Thursday	Deformation	10
18-Apr	Tuesday	Earth Resources	23
20-Apr	Thursday	Earth Resources/Climate Change	23; 21
25-Apr	Tuesday	Streams	16
27-Apr	Thursday	Groundwater/Karst Environments	17
1-May	MONDAY	<b>FINAL EXAM 1:00-3:00pm</b>	

\*subject to revisions by instructor