

# Introduction to Geosciences I: Physical Geology GEOL 1121 Section 05

## Fall 2016 Syllabus

**Class Meetings:** T Th 2:00 – 3:15, TLC 1-301

**Instructor:** Dr. Christopher Berg

**Office:** CAL 101

**Office Hours:** W 11:00 – 12:00; TTh 3:30 – 5:00; by appointment

**Contact Information:** cberg (at) westga.edu; 678-839-4059 (dial 9-4059 on campus)

**Prerequisite Courses:** None. Geology is a science that builds upon and unites other disciplines; this course will be taught with the assumption that you have an understanding of basic concepts of general chemistry, physics, algebra, and geography. Be prepared to review these independently if needed.

### Required Texts:

1) *GEOL 1121-05 Course Packet* – This will only be available at the University Bookstore. Make sure you buy the course packet labelled for this particular section of the course!! The Bookstore will generally not accept returns of unwrapped course packets. You will need the course packet to complete graded homework activities and in-class assignments during the term.

2) *Essentials of Geology, 12e* by Lutgens, Tarbuck, and Tasa (ISBN: 978-0321947734). I am aware of the ever-increasing costs of college textbooks. This book combines readability, detailed and balanced coverage of content, supplemental learning support, and affordability. This book is also available in electronic and looseleaf formats. Earlier editions of this text (11<sup>th</sup> ed., 10<sup>th</sup> ed.) are also fine, but will be increasingly out-of-date, more limited in their supplemental support, and may not have the same ordering of topics or chapters. Many other introductory textbooks are available in the marketplace or at local public libraries. It is important that you have some form of college-level textbook to support your learning this semester.

### Course Learning Objectives and Outcomes:

Physical geology is the study of the materials and forces, both internal and external, which shape our planet. We will examine these features and processes, with an eye towards their impacts on the natural environment and on human society. By the end of this course, I expect that you will be able to:

- Identify the principles of scientific investigation;
- Develop and demonstrate critical thinking skills;
- Describe the physical and chemical makeup of the Earth and the operation of the fundamental geologic processes (e.g. plate tectonics, erosion, sedimentation, mountain building, streamflow, and glaciation) that have shaped it throughout its history (and continue to do so today);
- Explain the linkages between geologic processes and our everyday lives;
- Show that you have become an informed citizen on a variety of issues relevant to geology, natural resources, natural hazards, and the environment; and
- Demonstrate a greater understanding (and appreciation?) of the natural world around you.

Class assignments, activities, and exams are designed to improve your abilities in these areas.

## Grading Policy:

Grades in this course will be based on the following components:

1) Top two in-term exams out of three (lowest score dropped):	40%
2) Homework: CourseDen (quizzes, discussions), course packet, etc.:	30%
3) In-class activities and participation:	10%
4) Comprehensive final exam:	20%

Your final grade will be determined according to the following scale:

**A: 90% or greater; B: 80 – 89%; C: 70 – 79%; D: 60-69%; F: 59% or less**

Updated grades will be available on CourseDen throughout the term. Extra credit opportunities will be limited and only offered to the entire class. The grade you receive at the end of the semester is the grade you have earned through the sum total of your work throughout the course.

## Online Learning:

The CourseDen D2L page for this course will contain copies of this syllabus, useful links, pre- and post-class assignments, reading quizzes, and important course announcements; it will also be the most direct route for contacting the instructor. It is your responsibility to access the page regularly—a portion of your course grade will depend on you doing this! A syllabus “quiz”, pre-test, an external pre-course survey, and a learning objective survey will be made available during the first week of the course; these must be completed by the roster verification window during the second week of the course.

You can access the class page by logging in through the UWG portal (<http://myuwg.westga.edu>), from the log-in prompt on the UWG homepage, or by logging on directly to the CourseDen D2L site itself (<http://westga.view.usg.edu>). If you have problems connecting, contact the Distance Learning helpdesk ([distance@westga.edu](mailto:distance@westga.edu) or 678-839-6248).

## SPECIAL NOTE – Research Policy:

This section is the subject of a multi-semester, multi-institution geoscience education project, focusing on the effectiveness of certain teaching materials and approaches on student learning. Some class activities, assignments, and exam questions are to be used as data for this study. **NO PERSONAL IDENTIFYING INFORMATION WILL BE RETAINED.** All data will be encrypted and tracked by ID #; only the instructor would have the ability to connect names to data. The Informed Consent Form lists responsibilities and procedures related to this study that are relevant to the course; you may choose NOT to be part of this study at your discretion, without penalty. All students, whether they are participating in the research study or not, will complete the same assignments, participate in the same activities, and be graded in the exact same way. There are no direct benefits or penalties for choosing to participate (or not) in this aspect of the course. See your instructor if you have any questions or concerns.

## Homework:

There will generally be homework assignments to complete prior to each class meeting. CourseDen assignments (generally quizzes, discussions) will be submitted to CourseDen prior to class, hand-ins from the course packet or other activities will generally be collected at the start of

class meetings. All homework assignments are due at the start of the class session; barring documented, extreme circumstances (defined by the instructor, not the student) late work will not be accepted. Except in special circumstances with prior notification and instructor permission, assignments submitted via email will not be accepted for credit.

Short (“5 Question”) worksheets are included at the end of each chapter section of the Course Packet; these will occasionally be assigned as homework or as questions for small-group discussions during lecture, and these may be collected and graded. Assigned readings will come from the textbook (based on topic; if using a version different than the required text, you will need to find the corresponding material on your own), the course packet, pre-work/pre-reading associated with in-class activities, or assigned on CourseDen. Lecture activities will build upon a basic shared understanding from completing reading assignments and/or pre-class activities prior to the class meeting; not completing these assignments will not only harm your grade, but it will make it difficult for you to participate fully in class activities.

### **Exams:**

Tests in this course will cover material presented and discussed in class, described in readings, organized in the course packet, assessed in homework assignments, or presented in online supplemental materials on CourseDen. In general, I will not be testing your ability to regurgitate trivial facts on demand but rather your ability to apply the knowledge you’ve gained – this means that last-minute “cramming” is a very poor study strategy!

On exam days, you will only need to bring a #2 pencil to class; Scantron forms will be provided for you. All other personal items must be put away under your desk or brought to the front of the room. Cellphones and other internet-enabled devices must be switched off and/or placed face-down on the table in front of you. The lowest of the three in-term exam scores will be dropped when computing your final grade. Barring extreme circumstances (as defined by the instructor) there will be no makeup exams offered in this course—a missed exam will be counted as your “free drop”. The comprehensive final exam cannot be dropped.

### **Using the Course Packet:**

The Course Packet contains many of the figures and tables reproduced from the required textbook along with space for taking additional notes. Studies on effective learning have shown that the act of writing greatly increases the retention of information. The best way to use the Course Packet is to take notes as you are reading, then fill in gaps (or add notebook pages) from lecture discussions to tie the lectures and your independent learning together. You can use the Course Packet as notetaking space in class, but please note that the pages in the packet are not necessarily going to directly correspond with the topics covered in lecture meetings. In addition to end-of-chapter “5 Questions” sections that may be assigned periodically for homework, there are pre-class readings, assignments, and pre-printed handouts for in-class activities as well as feedback/response pages at the back of the Course Packet that will be filled out and turned in for participation credit. **You will need to bring the Course Packet with you to class each day.** The course packet is NOT meant to be a substitute for reading the book or for being attentive during class; however, if used effectively it can be an excellent study guide for the course.

## Course Guidelines, Policies, and General Advice:

- ✓ Success in a class of this nature depends on your regular attendance and active participation. You are responsible for arriving on-time and ready to be an active part of class and staying through the end of the class period. If you must arrive late or leave early, please be considerate to your classmates and do so quietly. If you miss class, you are responsible for the material that was covered, including any assignments or announcements. You should plan on consulting a classmate to stay up-to-date.
- ✓ Some in-class activities will be part of your grade in this course. There are no makeups for these activities if you arrive late or leave early and miss one.
- ✓ As part of this course, you will need to build the connections between concepts described in the textbook and practiced in lecture. This requires consistent, spaced review of your notes, practice with terms, reflection on the results of quizzes and assignments, and mindful self-assessment of your performance. Skimming text sections or bare course packet chapters, while much faster, is not effective as a study technique – what you become fluent with is the specific wording in the readings, not the concepts discussed within them. Work to develop and practice good study habits in this course; they will benefit you long past this semester. I am happy to help you with this; please consider me a resource if you need advice on building stronger study skills.
- ✓ As a general rule of thumb, a baseline expectation is that each credit hour roughly translates into 1-2 hours of preparation/review per week; in a 3-hour course, that means you should expect to spend roughly 4-6 hours per week reviewing and practicing outside class in addition to our class meetings. Effective learning requires active participation throughout the process – don't wait for the content to come to you!
- ✓ Beyond those opportunities announced in class or on CourseDen, there will be no “extra credit” made available in this course. Build good habits from the start of the term in order to earn the grade you're hoping for by the end of the semester.
- ✓ This is an environment that demands mutual respect and professional conduct by all and for all. If you make yourself a distraction to those around you, you will be asked to leave; persistent offenders may be dropped from the course by the instructor.
- ✓ Part of your responsibility to your classmates is to participate in the lectures and discussions without being a source of distraction. Technology is both a benefit and a drawback in this regard. When technology is used improperly, it creates a bubble of distraction that is not only damaging to your level of engagement, but it also negatively affects the learning of those around you. All of the wonders of the internet will still be there for your once class is over. Take the earbuds out and switch your phone off before class starts. If you really can't wait, please do your classmates and the learning environment a favor and stay home.
- ✓ Lectures may not be recorded without the prior consent of the instructor. See me first if you need special arrangements.
- ✓ Cheating of any sort will not be tolerated. This includes copying answers on assignments or exams, as well as plagiarism. Everything you write down and turn in for a grade must be in your own words and reflect your own understanding. Cheating in any form will result in at minimum a zero grade on that assignment or exam (which may not be dropped – if you cheat on an exam, you will almost certainly fail the course); additional sanctions may be levied by the University. It's not worth it; please don't try it.
- ✓ See <http://www.westga.edu/UWGSyllabusPolicies/> for details regarding the UWG Honor Code, email policies, and options for academic support.

**Course Topics and Schedule:**

<b>Week</b>	<b>Class Dates</b>	<b>Topics</b>
1	8/11	Class Introduction
2	8/16, 8/18	Introduction to Geology; People, Products, and Minerals
3	8/23, 8/25	Mineral Resources; Mining and Mining Impacts
4	8/30, 9/1	Resources Created by Sedimentary Processes; Resources Created by Igneous/Metamorphic Processes
5	9/6, 9/8	Mining, Society, and Decision Making; Rock Cycle Overview
6	9/13, 9/15	<b>T (9/13): EXAM 1</b> ; Introduction to Plate Tectonics
7	9/20, 9/22	Earthquakes and Volcanoes; Plate Tectonics & Google Earth*
8	9/27, 9/29	Plate Tectonics & Google Earth*; Risks at Transform Plate Boundaries
9	10/4, 10/6	Hazards at Divergent Plate Boundaries; <b>FALL BREAK (no class 10/6)</b>
10	10/11, 10/13	Risk at Divergent Plate Boundaries; Deformation & Mountain Building
11	10/18, 10/20	Hazards & Risk at Convergent Plate Boundaries
12	10/25, 10/27	<b>T (10/25): EXAM 2</b> ; Weathering & Soils
13	11/1, 11/3	Mass Wasting; Hydrologic Cycle & Freshwater Resources
14	11/8, 11/10	Groundwater Processes & Availability; Glaciers and Deserts
15	11/15, 11/17	Shoreline Hazards; <b>Th (11/17): EXAM 3</b>
16	11/22, 11/24	<b>THANKSGIVING BREAK – NO CLASSES</b>
17	11/29, 12/1	Geologic Time, Global Climate Change

**Final Instruction Period:** Tuesday, December 6, 2:00 – 4:00 PM

NOTE: The course schedule is subject to change with notice. Any adjustments to exam dates will be announced in class and online with as much advanced notice as possible.