GLG103: INTRODUCTION TO GEOLOGY I, PHYSICAL GEOLOGY LAB

Welcome to GLG103! The Physical Geology Laboratory is usually required in conjunction with GLG101 (Physical Geology Lecture) for Major/Minor or General Education credit in most of our degree programs. The lab is coordinated with the lecture classes and designed to give you "hands-on" experience with many of the lecture topics. The lab, however, may be taken independently of GLG101 and is so designed as an independent class. We will be learning how to identify rocks & minerals and interpret topographic & geologic maps- skills that may prove useful in deciding where to buy or build a house; or perhaps find gold or other precious commodities.

Course Description: Includes practical experience in rock and mineral identification, topographic maps, and applied problems in geology. Prerequisites: None

Course objectives: after completing this course, you should be able to:

1. Describe the physical properties of common minerals and use them to identify minerals. (I)
2. Compare and contrast the textures of common igneous, sedimentary and metamorphic rocks and use them to identify hand specimens. (II)
3. Demonstrate the ability to read and interpret topographic maps by locating points on a map, identifying landforms and creating topographic profiles. (III)
4. Identify basic geologic structures shown on geologic maps and cross-sections. (III)

The outline for the course is given as the accompanying course schedule.

Credits/Periods: 1 credit /3 periods. When taken with GLG101, transfers to ASU, UA, and NAU and may be used toward satisfaction of the Natural Science requirement for AGEC-A & B blocks and the Optional Science for the AGEC-S block; AA, AB, some AS, and TG-XR degrees programs. When accompanying GLG101 on transcript, satisfies the SQ general education requirement.

Format: Online asynchronous. Students are required to have access to a computer/mobile device and reliable Internet access. See the "***Technology Resources***" section of the syllabus below. Online classes do not have mandatory meeting times but may include *optional* virtual components such as review sessions, office hours, etc. at specific times via Zoom (https://us02web.zoom.us/j/6238453217*)*. I will be online during the "original in-person" lab times via Zoom for Q&A sessions: Wed Eve 7:10-9:40p, and Fri 12:00-2:30p. Course resources, assignments, quizzes & exams are available via Canvas. Other course resources are stored via a ***GLG103 Shared Google Drive*** associated with your MEID account. Please contact me with any questions.

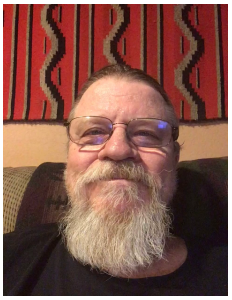
Section/Time/Place: Sections 12666 & 12686. Dates: 08/24/2020 - 12/18/2020. Students are required to submit a minimum initial assignment on Canvas within the first five days of class, including the start date.

Text(s) & other resources: Calderone & Johnson, *Physical Geology Laboratory Manual, Fall 2020 edition*. Included digitally in all *Canvas Course Modules*. A set of minerals, rocks and identification tools may also be available on the second week of classes via pick-up on our campus. These must be returned at the end of the semester.

INSTRUCTOR INFORMATION & CONTACTS

Instructor: *Wayne Johnson*

E-mail (Best contact method): *wayne.johnson@gccaz.edu* Please put "geology" in the subject line to distinguish from Spam. Seems to work best with attachments.



Canvas Mail: forwards to my standard email. It is sometimes finicky with attachments.

Office Phone: *623.845.3217* w/voice mail. Please leave your name & number- slowly & distinctly.

Personal Web Site: *http://web.gccaz.edu/academicdepartments/physicalscience/wmjweb/wmjhome.html*

Geology Web Site: *https://www.gccaz.edu/physical-sciences/geology*

Office Hours: Virtual online via Zoom: *https://us02web.zoom.us/j/6238453217* by appointment.

COURSE RESOURCES AND STUDY STRATEGIES- HOW TO GET THE MOST OUT OF THIS CLASS

Geology is a physical science course. Science courses, however, are generally not easy for most people and usually take a bit of work. In addition, we all learn differently. Some of us are very analytical, whereas others may prefer a more "hands-on" approach. Still others may prefer more discussion and visual aids. Handily, there are many resources and study strategies available to you. These resources include:

- My detailed ***Lab Lectures*** are stored on my unlisted ***YouTube*** channel. The videos are listed in my ***Canvas Modules.*** For most of the topics, I will be lecturing using a variety of formats- emphasizing demonstrations. Don't hesitate to contact me for a ***Zoom session*** to clarify or answer questions.

- The ***Lab Manual***- Each ***Canvas Module*** begins with the link to the appropriate exercise in the Lab Manual. Consider it your "cookbook" to performing the lab exercise each week. The lab manual can also be downloaded as individual exercises via this link: *http://web.gccaz.edu/academicdepartments/physicalscience/geoweb/glg_103_labman.html*
  . You will need your MEID credentials to do so.

- ***Web-based tutorial on Geologic Time, Geologic Structures, and the Interpretation of Geologic Maps***. Located at *http://web.gccaz.edu/academicdepartments/physicalscience/gjc-nsf/index.html*. This tutorial can help you make sense of the material we will cover in the latter half of the lab. Other resources are available on Canvas.

- A ***GLG103 Shared Google Drive*** associated with your MEID account will contain the digital topographic and geologic maps that we will need to complete the exercises associated with those labs. Although these will also be available via Canvas, the files are very large and may slow Canvas as they download. It is sometimes easier to have the map open in one window and Canvas in another window and just toggle between windows/apps as needed.

- ***Roger Weller's Web-based collection of Mineral & Rock photos***. Located at *http://skywalker.cochise.edu/wellerr/aawellerweb.htm*. Our online sets of minerals & rocks are limited. Professor Weller's photo archive will help you see the variety of our minerals and rocks. Some minerals & rocks always look the same. Others, like quartz for example, have more variety in colors and shapes. The more quartz you see, the less likely we could fool you on a quiz with an odd color or shape of quartz.

IF return to our Campus is authorized (and, in YOUR judgment, SAFE) the following resources MAY be activated and also prove useful. We have designed the lab, however, such that you can succeed without our Campus resources.

- ***Display Cases & Outdoor Exhibits***- Numerous exhibits of minerals, rocks, fossils, maps, and other information are displayed throughout the central common area and outside the east wing of the Physical Science Building. These make excellent study devices by providing further examples of the materials you will be studying in lab.

- ***PS 115 Study Room***- A duplicate set of minerals, rocks, and maps used in the lab are available for study as long as the building is open. In addition, practice versions of the mineral and rock exams will be placed here a week prior to, and during the week of, the actual exams.

- ***Study Groups***- Get together- help each other! I strongly encourage you to form study groups. I do not grade "on a curve" so no one is competing with anyone else for grades. Study groups can be a very effective way of learning and can help reduce some of the stress we may feel when "going it alone".

Technology Resources

Technology and skills needed:

If this is your first online course, you may want to check into *https://www.gccaz.edu/online/getting-started* for a quick orientation. For this course, you will need a working MEID email account (see below), a Canvas account, and access to the Internet. Additionally, you should be comfortable using the Internet. Many of the written course materials available for this class are in .PDF format. You will need a PDF reader to view them. Firefox and Chrome are the recommended web browsers for accessing course materials. To download these browsers, visit:

- Firefox: *https://mozilla.org/firefox*
- Chrome: *https://www.google.com/chrome/*

Email Accounts for Students

Maricopa Community Colleges provides all students with an MEID email address. It is the official way to receive communication from the college and district. Look up your email account at *https://www.gccaz.edu/technology-help/meid.* It is ***IMPERATIVE*** that you regularly check your MEID email and your Canvas email. These are our primary means of contacting you. It is possible to forward both accounts to your personal email to facilitate your ability to check them. See the Technology Helpdesk for help in doing so.

Using Canvas

I will be using Canvas not only to record your grades but also to make course announcements and deliver your instructional content, course notes and other resources. Use your Maricopa Enterprise ID (MEID) and associated password to log into the Canvas Learning Management System at *https://learn.maricopa.edu*.
Check out the Canvas Student Guide at *https://community.canvaslms.com/docs/DOC-4121* or call 1-888-994-4433 for 24/7 support.
Visit the *Maricopa 24/7 help site* for a live chat with a support team member.

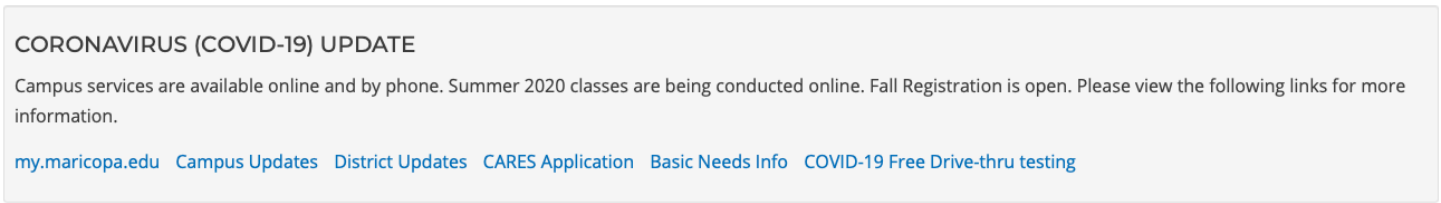
Technology Help at GCC: *http://www.gccaz.edu/technology-help*

For help with course technology, you can contact the GCC Helpdesk in the following ways:

- In-person: High Tech 1 (HT1)
- Phone: (623) 845-3555
- Email: *helpdesk@gccaz.edu*

CAMPUS RESOURCES: HELP ON THE WAY!

Many students enter this class with a bit of anxiety- "I'm not really a 'scientific' person" or "Science classes have always been difficult for me." Other students may have various disabilities including learning disabilities, which may make some learning environments difficult. Fear not, almost all such students before you have actually passed this course- many with very high grades! The success of many of these students, though, was in part because they took advantage of the many programs offered to help! These programs include:
Disability Resources & Services (DRS), see also *https://district.maricopa.edu/mandatory-drs-title-ix-syllabus-statements*
Center for Learning (CL), also includes links for campus-wide and department tutoring
Counseling Center, provides students with career counseling, personal counseling, personal development counseling.
Child Care Resources, For emergency childcare, call the Child Care Resource @ 800.308.9000.
Many are also available online. Please consult the main GCC Web Site at *https://www.gccaz.edu/* and *Campus Updates* for the latest information on these resources.



GRADING

Assessment for this course will be based on lab exercises (assignments), quizzes, practical exams as shown in the table below. Total points may be changed during the semester to accommodate unforeseen circumstances but the grade percent benchmarks will remain the same. The lowest of your quiz scores will be dropped. The final exam is *optional and will be available only if it is possible to raise your final grade by taking it.* A calculation will be provided (or use the Canvas "What if..." tool) to determine whether you want or need to take the final exam. The final exam will consist of a re-take of an alternate version of your *lowest* regular exam. In the event that two of your exam scores tie for the lowest, I will decide on the basis of your quiz scores which exam you may re-take. If you score less on the re-take of your lowest test that you did on the original test, the original test score will be kept. In short, *the final exam cannot hurt your grade*.

Grade Calculation	
Lab Exercises: 70 pts (14 @ 5 pts each)	***Grade Benchmarks by Approximate Percent***
Quizzes: 110 pts (Best 11 of 12 @ 10 pts each)	
Exams: 300 pts (3 @ 100 pts each)	A ≥ 90% (432 points) 80% (384 points) ≤ B < 90% (432 points) 70% (336 points) ≤ C < 80% (384 points) 60% (288 points) ≤ D < 70% (336 points) F < 60% (288 points)
Optional Final Exam: 100 pts. May replace your lowest exam as described above. If you are satisfied with your grade after the 3rd exam (over Time, Structures & Maps), you need not take the final exam)	
Total: 480 pts.	

- ***Exam and quiz formats***: Multiple choice, matching, listing, true/false, short answer and essay; hand specimen identification of rocks and minerals; practical cross-section and map interpretations.

- ***Canvas***: All assignments, quizzes & exams will be administered and graded in Canvas. To avoid the potential failures associated with Learning Management Systems such as Canvas, however, my official grade book is a computer spreadsheet. Furthermore, I have combined multiple sections of this course on Canvas. As a consequence, you may be interacting online with students from another class. If you have questions, please contact me.

GENERAL COURSE AND CAMPUS POLICIES

Every student is expected to know and comply with all current published policies, rules and regulations as printed in the college catalog, class schedule, and/or GCC Student Handbook GCC Student Handbook (*https://www.gccaz.edu/campus-life/office-student-life/student-handbook*).

- ***ATTENDANCE***: At the Maricopa Community Colleges, students must be engaging in some type of academic activity each week in a remote or online course. Faculty must report a student's last date of attendance and withdraw the student within fourteen (14) days of identifying the last date of academic attendance. Simply logging into an online class will not count as academic attendance. The following is a list of activities that constitute online class academic attendance:
  - Submitting an academic assignment (assignment required in the course, regardless of whether it is graded or not), paper, or project.
  - Taking an exam, quiz, computer-assisted instruction, or an interactive tutorial required by the course.
  - Attending an online or in-person study group (where there is assigned attendance/participation as part of the course).
  - Initiating contact with a faculty member to ask a question about the academic subject studied in the course.

- ***INSTRUCTIONAL CONTACT***: The standard formula for course time is that for every hour spent in class, plan to spend two hours outside of class to fully master its competencies. Accordingly, for this 1 credit, 3 period class, you should plan to spend *up to* 2.5 hours on course content (Instruction and Lab Exercises), **and** *up to* 5 hours on out-of-class work (lab manual readings, quizzes, practice exams, study sessions, etc.) each week. Your mileage may vary.

- ***LATE ASSIGNMENTS AND MAKE-UP***: All weekly assignments are due no later than 5:00 p.m. (MST) on Fridays as per the schedule at the end of this syllabus. Assignments will be made available no later than the Monday prior and will be accepted early. Extensions for *emergency situations may* be granted by the instructor but will not extend past the Sunday evening immediately following the Friday due date. The drop of the lowest quiz and the optional retake of the lowest exam are provided to accommodate emergencies that cannot be accommodated by such extension. *There will be no extensions for non-emergency late submissions.*

- ***WITHDRAWALS***: Withdrawals are not automatic unless I don't hear from you for 14 days as listed above. If you wish to drop the course for any reason, it is your responsibility to complete the appropriate paperwork as prescribed by the Admissions Office ***OR*** inform me so that I may do so. I am aware that we are navigating uncertain waters at this juncture so I'm happy to work with you including facilitating the paperwork. Students who withdraw without consulting Admissions or me may receive a grade of "F" or "W". The last dates for student-initiated withdrawals can be obtained from the Office of Admissions & Records on *my.maricopa.edu* via the Student Center. I am able to work with you through the end of the semester.

- ***ACADEMIC MISCONDUCT: ACADEMIC DISHONESTY***: Students engaging in misconduct or dishonest practices on exams or quizzes will be dealt with accordance with the guidelines established in the Student Handbook. Although the online environment is essentially one of open resources, the following are prohibited:
  - Falsely representing another person's work as your own (plagiarism)
  - Any unauthorized assistance from another person in completing assignments and exams
  - Communicating lab, quiz, or exam questions or answers with another student

- ***ACADEMIC MISCONDUCT: SEXUAL HARASSMENT & DISCRIMINATION*** (see *https://district.maricopa.edu/mandatory-drs-title-ix-syllabus-statements)*. To view the full Sexual Harassment Policy refer to *https://district.maricopa.edu/regulations/admin-regs/section-2/2-4*. Students should report any discrimination and/or harassment they experience and/or observe to the GCC Office of Student Life in the Student Union. Phone *623.845.3525* or Visit *https://www.gccaz.edu/campus-life/office-student-life*.

NETIQUETTE refers to etiquette on the Internet. Please follow these netiquette guidelines:

- Do not do or say anything online that you would not do or say in-person.
- Always identify yourself on MEID Email, Voicemail or Google Voice. Don't assume your instructor knows who you are by your MEID address or phone number.
- If reporting a problem via email, text or voicemail, please provide as much detail as possible to help me find a solution.
- When/if using video in Zoom sessions, please wear pants, just in case. Also be aware of the background behind you.
- As per the GCC Student Handbook, Administrative Regulation 2.5.2 Student Conduct Code, Faculty members have the right to remove or withdraw a student from the teaching environment for disruptive student behavior. Please note that a faculty member may also submit a conduct report to the Dean of Student Life office to invoke the conduct process. More information on the Student Conduct Code and additional administrative regulations is available in the GCC Student Handbook (*https://www.gccaz.edu/campus-life/office-student-life/student-handbook*)

- ***AUDIO/VISUAL RECORDING***: Neither audio nor video recording will be permitted except under special circumstances prescribed by Disability Resources & Services.

Syllabus Changes

Information included in this syllabus may be subject to change. The instructor will notify students of any changes in course requirements or policies. Such notifications may be made via Canvas Announcements and/or MEID Email. The student is responsible for noting such changes.

Course Schedule

GLG103 Online Version- all work Due by 5:00 p.m. on Due Date			**Fall 2020**
Week	Due Dates	Topic & Canvas Module	Quiz/Exam
1	8/28	Ex 0 Introduction & Orientation (5 pts)	Quiz (10 pts) over Syllabus on Canvas
2	9/4	Ex 1 Plate Tectonics (5 pts)	Quiz (10 pts) over Plate Tectonics
3	9/11	Ex 2 Phys. Properties of Minerals (5 pts)	Quiz (10 pts) over Physical Properties
4	9/18	Ex 2 Mineral Identification (5 pts) **Exam #1: Minerals**	Mineral Exam (100 pts)
5	9/25	Ex 3 Rock Textures (5 pts)	Quiz (10 pts) over Rock Textures
6	10/2	Ex 4 Igneous Rocks (5 pts)	Quiz (10 pts) over Igneous Rocks
7	10/9	Ex 5 Sedimentary Rocks (5 pts)	Quiz (10 pts) over Sedimentary Rocks
8	10/16	Ex 6 Metamorphic Rocks (5 pts)	Quiz (10 pts) over Metamorphic Rocks
9	10/23	Ex 7 Rock Identification (5 pts) **Exam #2: Rocks**	Rocis Exam (100 pts)
10	10/30	Ex 8 Relative & Absolute Dating (5 pts)	Quiz (10 pts) over Relative Dating
11	11/6	Ex 9 Geological Maps I (5 pts)	Quiz (10 pts) over Geologic Maps I
12	11/13	Ex 10 Topographic Maps I (5 pts)	Quiz (10 pts) over Topo Maps I
13	11/20	Ex 11 Topographic Maps II (5 pts)	Quiz (10 pts) over Topo Maps II
14	11/27	***Thanksgiving Holiday***	
15	12/4	Ex 13 Geological Maps II (5 pts)	Quiz (10 pts) over Geologic Maps II
16	12/11	**Exam #3: Time, Structures & Maps**	Time, Structures & Maps Exam (100 pts)
17	12/18	**Final Exam (Optional- see syllabus)**	Optional Final Exam (100 pts)

Point Distribution

Lab	70	= 14.5%
Quiz - LD	110	= 23%
Exam	300	= 62.5%
Total	480	= 100%

You Can Do This!