

**Marshall University**  
**GLY 100-102: Geologic Hazards & Resources – Fall 2018**  
**Syllabus**

<b>Course Title/Number</b>	<b>GLY 100-102</b>
<b>Pre-requisites</b>	<b>None</b>
<b>Co-requisites</b>	<b>For Core II Science: GLY 210L</b>
<b>Semester/Year</b>	<b>Fall 2018</b>
<b>Days/Time</b>	<b>TR, 5:00-6:15pm</b>
<b>Location</b>	<b>BBSC 101</b>
<b>Instructor</b>	<b>Bill Niemann</b>
<b>Office</b>	<b>S171</b>
<b>Phone</b>	<b>304-696-6721</b>
<b>E-Mail</b>	<a href="mailto:niemann@marshall.edu">niemann@marshall.edu</a>
<b>Web</b>	<b>Blackboard through MUOnLine</b>
<b>Office Hours</b>	<b>M: 2:00-4:00pm</b> <b>TR: 11:00-11:30pm</b> <b>TR: 4:30-4:50am (before class)</b> <b>F: 9:30-11:30am</b> <b>Or by appointment</b>
<b>University Policies</b>	<p>By enrolling in this course, you agree to Marshall University Policies. These include: Academic Dishonesty/Excused Absence Policy for Undergraduates/Computing Services Acceptable Use/Inclement Weather/Dead Week/Students with Disabilities/Academic Forgiveness/Academic Probation and Suspension/Academic Rights and Responsibilities of Students/Affirmative Action/Sexual Harassment.</p> <p>You can access and read these the policies at <a href="#">Marshall Academic Policies</a></p>

## Course Description

Introductory course for non-science majors focusing on:

1. Geologic Hazards: causes, and mitigation,
2. Earth and Energy resources, their origin, development, and environmental impacts; and
3. Climate change and its impacts.

## Student Outcomes: Statements, Practice and Assessment

Course student learning outcomes	How students will practice each outcome in this course	How student achievement of each outcome will be assessed in this course
Understand causes of natural hazards, disasters and catastrophes; link human activity to hazard location/frequency. Define and discuss risk posed by geohazards and how science is a tool to evaluate, manage and mitigate these risks.	In-class Assignments	Exams On-Line quizzes In-class Assignments
Learn composition and structure of the Earth, various Earth processes and phenomena, basic terms.	In-class Assignments	Exams On-Line quizzes In-class Assignments
Understand Tectonic processes and relations to hazards and resources.	In-class Assignments	Exams On-Line quizzes In-class Assignments
Learn about the various mineral and energy resources: Origin, and environmental impact of extraction/ utilization.	In-class Assignments	Exams On-Line quizzes In-class Assignments

**Student Outcomes: Statements, Practice and Assessment (cont.)**

<b>Course student learning outcomes</b>	<b>How students will practice each outcome in this course</b>	<b>How student achievement of each outcome will be assessed in this course</b>
Become familiar with a number of classic natural geohazards: earthquakes, volcanoes, landslides, flooding, etc. Be able to relate their geologic origins to earth's structure and processes.	In-class Assignments	Exams On-Line quizzes In-class Assignments
Become familiar with geohazards created by human activity, including waste disposal and mineral and energy extraction.	In-class Assignments	Exams On-Line quizzes In-class Assignments
Investigate the science of climate change and its relationship to geohazards.	In-class Assignments	Exams On-Line quizzes In-class Assignments

**Required Texts, Additional Reading, and Other Materials**

<ol style="list-style-type: none"><li>1. <u>Natural Hazards: Earth's Processes as Hazards, Disasters and Catastrophes</u>, Keller &amp; DeVecchio, 4<sup>th</sup> edition ISBN 978-0-321-93966-8; and</li><li>2. Supplemental readings (provided by instructor), on-line lectures and videos, as assigned.</li></ol>
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## Course Requirements / Due Dates

### **1. Exams (60% of course grade)**

**Four exams:** Each will consist of approximately 30 multiple-choice questions with a 40-minute time limit.

Exams 1, 2 and 3 will be given during regular class time on the dates indicated on the official class schedule

Exam 4 will be given during finals week on Tuesday, 11 December, at 5pm.

**Make-ups for Exams 1-3 will be given at 2:30 pm on Friday, 7 December. There will be no makeup exams without an official excused absence from the Dean of Student Affairs.**

### **2. On-line quizzes (25% of course grade)**

On-line quizzes (Blackboard) will be due each week (generally on Monday evenings), except during exam weeks.

Due dates will be announced at least five days in advance.

Quizzes may be submitted up to 7 days after the due date but will be penalized at the rate 10% per day.

### **3. In-class assignments (15% of course grade)**

These in-class assignments (ICA's) are designed to allow students to test their knowledge in a low-stakes environment. Some ICA's will be designed to help produce a "flipped" classroom where students are responsible for what happens during significant portions of the periods

ICA's will be based on out-of-class readings from the textbook, on-line lectures or videos, as well as material discussed previously in class.

ICA's generally will be announced at least two class periods in advance if out-of-class preparation is required.

## Weighting of Exams and Quizzes

***Students with good class attendance will be rewarded according to the following schedule:***

No. of Unexcused Absences	Result
0	Drop lowest exam, count 2 <sup>nd</sup> lowest as 50% of two highest; drop two lowest <u>non-zero</u> quizzes.
1	Drop lowest exam; drop two lowest <u>non-zero</u> quizzes.
2	Count lowest exam as 50% of three highest; drop two lowest <u>non-zero</u> quizzes.
3	Drop two lowest <u>non-zero</u> quizzes.
4	Drop lowest <u>non-zero</u> quiz.
> 4	No exams or quizzes dropped or weighted.

**(Note that zero quiz grades will not be dropped, so make sure you submit all quizzes for a grade, even if you have to submit them late).**

## Extra Credit

***Students may earn extra credit in four ways:***

1. Attend class regularly (see previous box on *Weighting of Exams and Quizzes*).
2. Visit the instructor during office hours at least once during the first 3/6 weeks of the semester (adds 1% / 0.5% to grade total).
3. Complete the on-line course evaluations at the close of the semester. If 70% of students complete the evaluations all students will earn 1% added to grade total.
4. Score 90% or better on the exit exam during finals week (given the same day as the 3<sup>rd</sup> exam). (adds 1% to grade total. Scores in the range 51-89% will earn a pro-rated portion of the 1% extra credit).
5. Attend field trips led by geology faculty (usually ~3 hours).
6. Other activities, as announced.

## Grading Scale

Only numerical grades, and not letter grades, will be given for individual assignments or exams.

Final course letter grades will be assigned using a standard grading scale:

A  $\geq$  90%,      B = 80-89%,      C = 70-79%,      D = 60-69%,      F  $\leq$  60%

One or more of these thresholds may be adjusted downward slightly --never upward--for all students depending on overall class performance (e.g., A  $\geq$  89%).

## Example Grade Calculation

Exams: Both Hal Herd and Helen Herd (no relation) scored 60, 70, 80 and 90 on their four exams. Hal, however, had three unexcused absences, while Helen had perfect attendance. Therefore, Hal does not get to drop any of his exams, and his exam average is 75 (before extra credit). Helen has earned the ability to drop her lowest exam (60) and count her second lowest exam (70) as only 50% of her two highest exams. Her weighted exam average is 82 (before extra credit).

Quizzes: Hal and Helen also had identical quiz averages of 76 from the 10 weekly quizzes. Both of them had low quizzes of 50 and 60, and both had good enough attendance to drop the two lowest grades, giving them both a weighted quiz average of 81.25.

ICA's: Two of the three classes Hal missed included an ICA. Since ICA's cannot be made up if an absence is unexcused, Hal had to take a zero for those two ICA's and finished the class with an ICA average of 76. Helen earned a grade for all the ICA's and finished with an ICA average of 79.

Extra Credit: Both Hal and Helen earned 15 extra credit points by taking a field trip and attending a movie. Since extra credit is added to a student's highest exam, Hal's weighted exam average increased from 75 to 78.75. In Helen's case her weighted exam average improved from 82 to 88.

**This example demonstrates how earning the right to weight exams through outstanding attendance also boosts the value of extra credit.**

Final grade: Helen ended up with an overall average of 85.0 and a final grade of "B" while Hal ended up with an overall average of an overall average of 79.0 and a grade of "C". Thanks for playing, Hal and Helen!

Grade Component	Hal Herd raw score	Hal Herd weighted	Helen Herd raw score	Helen Herd weighted
Exams (60%)	75	78.75	75	88
Quizzes (25%)	76	81.25	76	81.25
ICA's (15%)	76	76	79	79
Total (100%)		<b>79.0</b>		<b>85.0</b>

## Attendance Policy

A daily record of attendance will be kept by circulating a sign-in list at the beginning of each class. ***It is the responsibility of each student to sign the list, and if late to sign the list or notify the instructor at the end of the lecture.*** Failure to do so may result in an official absence for that lecture. Arriving late or leaving lecture early may reduce or void credit for attendance for that day.

**The only absences considered excused for this class or those approved by the Office of Student Affairs.** These include “University Excused Absences” such as serious medical or legal reasons, military obligation, or university activities excused by the academic deans. See Marshall’s policy on “Excused Absences” at [www.marshall.edu/academic-affairs/policies/](http://www.marshall.edu/academic-affairs/policies/). **Note that a student who is briefly ill or injured for three or less consecutive hours of class is not excused from attending this class.**

**Notice of an excused absence must be received by the instructor directly from the Office of Student Affairs** located on the second floor of the Memorial Student Center (2W38), 304-696-6423. Requests for excused absences can be submitted remotely using the form available at <http://www.marshall.edu/student-affairs/excused-absence-form/>


In the case of an excused absence, any material missed can be completed, without penalty, by a later date assigned by the instructor. Failure by the student to complete the material by the assigned date will result in a zero for the assignment in question. The instructor may instead opt to assign a “no-grade,” without penalty to the student, for missed material as a result of the absence. There will be no makeup exams without an official excused absence from the Office of Student Affairs.

**Note that extreme weather could result in closure of the university and cancellation of class or a delay in the start of class.** (If the weather looks bad, check your e-mail and listen for announcements on local radio and TV). See Marshall’s policy on “Inclement Weather” at [www.marshall.edu/academic-affairs/policies/](http://www.marshall.edu/academic-affairs/policies/).

## **GLY 100-102 – Fall 2018 -- Course Schedule**

<b><u>Week</u></b>	<b><u>Dates</u></b>	<b><u>Topic</u></b>	<b><u>General Reading</u></b>
1	August 21/23	Introduction to Geohazards	Syllabus Chapter 1
2	August 28/30	Basic Concepts in Geology Earth's Structure	Chapter 1 (cont.)
3	September 4/6	Plate Tectonics	Chapter 2
4	September 11/13	Plate Tectonics	Chapter 2 (cont.)
5	September 18/20	Catch-up & Review <b>EXAM 1</b>	Chapters 1-2
6	September 27/29	Earthquakes & Tsunamis	Chapters 3-4
7	October 2/4	Earthquakes & Tsunamis	Chapters 3-4 (cont.)
8	October 9/11	Volcanoes	Chapter 5
9	October 16/18	Catch-up & Review <b>EXAM 2</b>	Chapters 3-5
10	October 23/25*	Flooding	Chapter 6
11	October 30/November 1	Mass Wasting	Chapter 7



12	November 6/8	Geologic Resources <b>EXAM 3</b>	To be announced Chapters 6-7
13	November 13/15	Waste Management Contamination of the Environment	To be announced
	November 20/22	<b>! THANKSGIVING BREAK !</b> 	
14	November 27/29	Climate & Climate Change	Chapter 12
15	December 4/6	Climate & Climate Change	Chapter 12 (cont.)
<b>FINAL EXAMS WEEK</b>	Tuesday, December 11 5:00–6:15 pm	<b>EXAM 4</b>	Geologic Resources, Waste Management Chapter 12

\*October 26<sup>th</sup> is last day to drop a full semester individual course

Useful Websites: **Information about Careers in Geology/Geoscience**

[www.aqiweb.org](http://www.aqiweb.org)   [www.usgs.gov](http://www.usgs.gov)   [www.geosociety.org](http://www.geosociety.org)