#### General Science 106: Earth Science (4 credits), Spring 2019

Instructor: Jeremy Randolph-Flagg

Office: NA

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Zoom Labs - Thursdays 5:00 pm- 7:00 pm

Zoom ‘Office Hours’ - Tuesday 5:00 pm - 7:00 pm

CRN: 41972

**Welcome to Earth Science!**

In this course we will explore how the various Earth “systems” made up of rocks, gases, and water interact to form our beautiful Earth, provide us with resources, and create disasters. This class is not about memorizing the names of 100 different rocks and how to distinguish them. Instead, it’s about a way of looking at the world around you and learning how to be confident in your observations and interpretations of that world.

Course Goals:

* To better understand the natural world. The knowledge you build in this course will encourage you to become more curious about how the Earth works.
* To have a general knowledge of science so you can make more informed decisions as a contributing member of society.
* To develop and improve life-long skills such as problem solving, critical thinking, oral communication, and group work. I hope that the skills you learn and refine in this class will carry over into your other classes and your personal life.

**Course Description**

Introduces non-science majors to the Earth Sciences, including geology, meteorology, and astronomy. Includes a laboratory component. No previous science background required. No prerequisite. Counts as Physical Science Perspective for AS/OSU degrees and Science with Lab for AAOT degree.

**Course Learning Outcomes**

**At the end of the course, a student will be able to:**

* Identify and classify igneous, sedimentary, and metamorphic rocks.
* Describe the formation of landforms in the context of plate tectonic theory.
* Describe the components and processes of the hydrologic system.
* Describe the components and processes of the atmospheric system, including weather and climate.
* Describe objects that make up the solar system and universe, and explain the effects of the relative positions of the earth, sun, and moon.

**Learning Resources**

* **Textbook:** Foundations of Earth Science, by Lutgens, 8th Edition, ISBN: 9780134184814.
* **GS106 Course packet**, by Deron Carter.
* **Moodle.** This is our online class hub: you will check grades, review syllabus and powerpoints, and submit assignments. Textbook and video links are also posted here.
* **Calculator.** Any type will do for this class.
* **Office Hours.** I’ll be available every Tuesday between 5:00 and 7:00 pm for virtual office hours

**Grading (subject to change)**

* 2 Tests (50 points each)= 100 points
* Comprehensive Final Exam = 75 points
* Labs (10 points each) = 80 points
* Write-ups (10 points each) = 70 points
* Quizzes (10 Points each) = 80 points

**Total = 405 points**

**Grading Scale**

A = 100-90% (405 - 364 points)

B = 89-80% (363- 324 points)

C = 79-70% (323 - 283 points)

D = 69-60% (282-243 points)

F = 59% and below (242 points and below)

**Exams:** All exams will be administered online.

**Final Exam**: This exam is comprehensive, covering Weeks 1 - 9.

**Quizzes**: Quizzes generally close Tuesdays at 11:59 pm (except for Week 1, Week 4 & Week 8 as indicated). Quizzes are multiple choice, scored out of 10, and you have one attempt. Quizzes are based on the weekly readings from the textbook. I drop your lowest quiz grade from your final grade.

**Write - Ups:** Every non-test week you will also complete a small short-answer style assignment worth 10 pts on what we covered that week. Write-ups are due on Friday at 11:59 pm.

**Lab exercises:** Labs will be due each week on Thursday at 11:59 pm - I will hold a Zoom meeting every Thursday at 5 pm to assist with the lab - if you want to join but can’t make the Noon Zoom meeting email me directly and I’ll find another time. I drop your lowest lab grade from your final grade.

Schedule

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| --- | --- | --- | --- |
| **Dates** | **Week** | **Topics** | **Assignments (due dates in parentheses)**  Unless otherwise indicated all assignments are due at 11:59 pm on due date |
| 4/6 - 4/10 | 1. | Science, Measurement, Earth History, Minerals | Quiz #1 - Minerals (4/10)  Write-Up #1 (4/10)  Lab 1 - Science Skills (4/10) |
| 4/13 - 4/17 | 2. | Minerals and Rocks | Quiz #2 - Rocks (4/14)  Lab 2 - Rocks (4/16)  Write-Up #2 (4/17) |
| 4/20 - 4/24 | 3. | Plate Tectonics | Quiz #3 - Tectonics (4/21)  Lab 3 - Tectonics (4/23)  Write-Up #3 (4/24) |
| 4/27 - 5/1 | 4. | Earthquakes and Volcanoes | **Test #1 - Covers week 1-3 (4/28)**  Quiz #4 - Earthquakes and Volcanoes (4/30)  Lab 4 - Earthquakes (4/30) |
| 5/4 - 5/8 | 5. | Streams, Rivers, and Landslide | Quiz #5 (5/5)  Lab 5 - Stream Table (5/7)  Write - Up #4 (5/8) |
| 5/11 - 5/15 | 6. | Oceans and Water | Quiz #6 (5/12)  Lab 6 - Water Properties\* (5/14)  Write-Up #5 (5/15) |
| 5/18 - 5/22 | 7. | Atmosphere | **Test #2 - Covers Weeks 4-6 (5/19)**  Quiz #7 (5/21)  Lab 7 - TBD (5/21) |
| 5/25 - 5/29 | 8. | Climate Change | Quiz #8 (5/26)  Lab 8 - Climate Change (5/28)  Write-Up # 6 (5/29) |
| 6/1 - 6/5 | 9. | Astronomy | Quiz #9 (6/2)  Lab 9 - Astronomy (6/4)  Write -Up # 7 (6/5) |
|  | 10. | **Final Exam** |  |