**Room:** Latham 111

**Time:** M & W - 10:00 to 11:50

F - 10:00 to 10:50

**Text:** *The Good Earth,* **2nd Edition** by McConnell, Steer, Knight, & Owens

**Course Webpage:** UNI eLearning

**Instructor:** Dr. Kyle Gray

**Email:** kyle.gray@uni.edu

**Office:** Latham 124

**Phone:** 273-2809

**Office Hours:** MW 1-2 & 3-4, W 9-10, F 11-12 & 1-2 or by appointment

**Course Objectives**

Your liberal arts education - Courses in natural science promote an understanding of science as a human process that investigates matter and energy acting within complex organic and inorganic systems. Fundamental principles of both physical and life sciences are included.

**Specifically -**

1. Obtain experience utilizing the scientific method (observation, hypotheses, experimentation, interpretation, and theory) and develop a better understanding of the nature of science
2. Gain a fundamental understanding of the Earth and Space Science concepts
3. Explore alternate concepts held by children
4. Demonstrate effective methods for conducting inquiry-based pedagogies that can be duplicated in a K-5 setting.
5. Provide information that will give you a basic ‘tool kit’ to go out and actively explore your environment and interpret articles/video of earth science publications.
6. Prepare you for taking additional earth science courses, allowing you to further explore what you find most fascinating.

**Expectations**

I expect the following from each student.

1. Attend every class
2. Read the book **BEFORE** class
3. Study outside of class \*
4. Make an appointment to see me if you are struggling with the course
5. Do your best

## \* This is a 4 credit course, so you will be expected to devote a use a ***substantial*** amount of time outside of class to completing the course requirements. On average, UNI expects you to devote 2 hours outside of class for each hour you attend class. For *Inquiry into Earth Science*, that formula results in 10 hours of study/homework time per week. Your actual weekly workload may be less than this for some weeks, but you will need to devote more than a couple of hours per week if you want to succeed in this course.

## **Class Attendance and Participation**

This class models different types of inquiry-based learning through hands-on activities conducted during class. The points you earn reflect this fact. **Traditional lectures will be rare,** therefore it is **VERY** difficult to make up missed classes, so attendance is ***CRUCIAL***.

With your major, you aspire to be a classroom teacher. Research shows a correlation between teacher effectiveness and the number of absences taken throughout the school year. (Highly effective teachers are rarely absent.) That’s why some districts restrict the number of days and dates a teacher can be absent throughout the year. To help you develop a professional work ethic and excel at your first job, this course will model the absence policies of many districts.

It is common for teachers to receive five sick/personal days per year. In this course, you may miss up to **four days** without losing credit. This includes absences for sickness, bereavement, or trips. Any absences beyond four will be considered unexcused absences and you will not receive credit for that day’s assignments. Absences due to sanctioned university programs (such as athletics) will be excused, but I must be notified at least two weeks ahead of time. After **six absences**, your grade will be reduced by one letter grade. Extended absences due to illness or death in a family may be excused with proper documentation. Absences the day before or after a university holiday are not allowed under any circumstances unless prior approval has been obtained.

Emergencies happen and will be dealt with on a case by case basis, if something does happen, contact me

**Academic Dishonesty**

Plagiarism and cheating are not tolerated on the UNI campus (the [UNI policy](http://www.uni.edu/policies/301) will be followed). If in doubt, look up the policy or talk to me. Papers that contain clear examples of plagiarism will receive a greatly reduced grade or a zero.

**Grading Procedure and Policies**

Grades will be assigned based on the percentage of points earned throughout the semester using the percentages in this table. The lower limit for each grade range will not move up but might move down. A curve will not be used in this class.

|  |  |  |  |
| --- | --- | --- | --- |
| **% Earned** | **Grade** | **% Earned** | **Grade** |
| >93 | A | 74-76 |  C |
| 90-93 | A- | 70-73 |  C- |
| 87-89 | B+ | 67-69 |  D+ |
| 84-86 | B | 64-66 |  D |
| 80-83 | B- | 60-63 |  D- |
| 77-79 | C+ | <60 |  F |

Grades will be based the points you earn for the following activities:

In-Class Activities

Homework

Reflections

Notebook Entries

Inquiry Experiences

Exams

Final Exam

Quizzes

**Assignments**

Besides the exams and quizzes, your grade will be based on the following assignments.

***In-Class Activities***

Activities are in-class projects, labs, and assignments that students complete individually while working within their student table-groups. You will have at least one in-class activity per week. Most activities will be graded out of ten points, but not all activities will be collected and graded. Unless otherwise noted, each activity will be due the beginning of the following class session.

***Homework Assignments***

Homework assignments are typically student answers to assigned questions from the textbook or a handout. Some homework assignments will be graded using a check plus, check, or check minus system, but others will have a designated point value. I reserve the right to assign points to any homework assignment. Some in-class activities may be counted as homework assignments.

***Reflections***

At least once for each unit, you will write a short paper reflecting in the concepts from class and connecting what you have learned to your daily lives and future teaching practice. Each reflection is worth ten points. See the accompanying handout for more information regarding these assignments.

***Interactive Science Notebook (ISN)***

You will use a bound notebook in class to record observations, design studies, and reflect on your learning. Throughout the semester the notebook will be a way to interact with the material from class. See the handout from class for more information on how to set up and use these notebooks.

***Inquiry Experiences***

You will be required to participate in **four** activities outside of the classroom. Each activity is an opportunity for you to connect our classroom learning with the r*eal world*. Each activity is worth 25 points. These experiences fall into two categories: 1) Mandatory Inquiry Experiences and 2) Recommended Inquiry Experiences. You MUST complete at least two of the listed Mandatory Experiences and two Recommended Experiences. You must complete one experience from each category by Friday, March 2nd. Opportunities include:

**Mandatory Inquiry Experiences**

(Choose two of the three)

* Planetarium Shows
* Earth Science Dept. Seminars
* Grout Museum Science Imaginarium

**Recommended Inquiry Experiences**

(Choose two)

* UNI Museum
* Graveyard Activity
* Field trip to Rockford Quarry and/or Coralville
* Erosion Observations

See the UNI eLearning website for details associated with each activity including directions, dates/times, and assignment details. Additional activities may also be announced in class and added to the website.

***Extra Credit***

You have two ways to earn extra credit for the course (up to a maximum of 20 points). Each extra credit assignment is worth 10 points. The last day to submit an extra credit assignment is *Friday, April 27th*.

Earth Science Today**:** You may submit a current article (e.g. W-CF Courier/DM Register, Newsweek, a scientific journal, and online report or story) that discusses some issue related to an earth science topic covered in class. Provide a short write up (about 1 page) that summarizes the article, connects the article to our course, and relates the content to your role as a teacher.

Mandatory Experience**:** Complete the third Mandatory Inquiry Experience or attend a second seminar.

**Other Info**

* If you have any special needs please let me know.
* I regularly check my email between the hours of 8:00 AM to 5:00 PM Monday through Friday except when I am in class or in a meeting. I typically **DO NOT** check my email after 5:00 PM on weekdays and nor do I check it on weekends. This means that if you send me an email late Friday afternoon, it most likely will **NOT** be answered until early Monday morning. Therefore, plan your study time accordingly.
* This is a cell phone free classroom. Please turn them off before you get to class. Unauthorized use of cell phones during class may result in the loss of credit for that activity or the loss of your phone until the end of that class session.
* If you need help, I encourage you to utilize the Academic Learning Center’s free assistance with writing, math, science, reading, and learning strategies. UNI’s Academic Learning Center is located in 008 ITTC. Visit the website at [www.uni.edu/unialc](http://www.uni.edu/unialc) or phone 273-2361 for more information.
* The Earth Science Department typically has students available for tutoring in the evening. Watch the notes on the blackboard for days and times.
* **Drinks in spill-proof containers are allowed. Food may be consumed before, but not during, class.**

**Course Schedule**

The course schedule included in this syllabus is to be considered a **tentative** outline of the topics covered over the course of the semester. Exact dates for exams and assignments may change. Any alterations to the syllabus will be posted on eLearning and announced in class. Each Friday I will also distribute a detailed summary of the following week’s activities and assignments. If a weekly summary differs from this schedule, the information on **the summary will always take precedent**. It is expected that you will complete the reading ***BEFORE*** we cover it in class.

|  |  |  |
| --- | --- | --- |
|  **Unit** |  **Theme** |  **Text Readings** |
|  (Due each Monday) |

**Unit 1 - Geology**

Week 1 Observations Chapter 1

(Jan 9-13) Science and Earth Science

Week 2 Minerals & Rocks Chapter 7

(Jan 16-20) - *No Class Monday* Handouts

**Exam 1 (Friday, February 3rd)**

Week 3 Rocks Weathering & Soils Chapter 9

(Jan 23-27)

Week 4 Running Water Chapters 11 & 12

(Jan 30-Feb 3) Groundwater

Week 5 Fossils and Earth History Chapter 8

(Feb 6-10)

**Exam 2 (Friday, February 17th)**

**UNIT 2 – Weather & Climate**

Week 6 Earth’s Atmosphere, Chapter 14

(Feb 13-17*)* Winds & Precipitation

Week 7 Weather Systems Chapter 15

(Feb 20-24)

Week 8 Severe Weather Chapters 15 & 16

(Feb 27-Mar 2)

Week 9 Climates & Climate Change Chapters 16 & 17

(Mar 5-9*)*

**Exam 3 (Friday, March 9th)**

**Spring Break (March 12-16) – No Classes**

**UNIT 3 - Oceans**

Week 10 Oceans Chapter 13

(Mar 19-23)

**UNIT 4 - Maps**

Week 11 Topography Handouts

(Mar 26-30) Topographic Maps

Week 12 More Maps

(Apr 2-6)

**Exam 4 (Friday, April 13th)**

**UNIT 4 - Astronomy**

Week 13 Origins of Modern Astronomy Chapter 2 (part 1)

(Apr 9-13)

Week 14 Seasons

(Apr 16-20) Our Solar System & Universe Chapter 2 (part 2)

Week 15 Near Earth Objects Chapter 3

(Apr 23-27) Review

Week 16 **Final Exam**

*(*Apr 30-May 4*)* **10:00-11:50 p.m. Monday, April 30th*, Latham Hall 111***