Course Description

Why study science? Science helps us understand the world around us. Everything we know about the university, from how volcanoes form to what an atom is made up of, is the result of scientific research and experimentation. The Earth is fundamental to life as we know it today. How we got here, the mountain, oceans, organisms, and our interaction
Course Objectives

- The student will learn concepts and vocabulary related to science by completing the various activities. Students will explore several important concepts that are of concern to us as citizens, educators, and scientists. They will do this by completing class activities which may include collecting visual data as photographs.
- The student will properly apply the scientific method to research a problem and formulate conclusions. All sciences share a common methodology of attaining knowledge that sees to eliminate bias and prejudice in research. You will learn the difference between a hypothesis and a scientific theory.
- The student will synthesize information from external sources and personal observations and incorporate them into class activities. Learn how scientists think. Scientists observe, question, and analyze, and you will be expected to do the same.
- The student will investigate real world examples by completing a
variety of activities. Students will be investigating soil, biota, and associated issues from the El Paso area.

- The student will practice independent thinking. Students will critically evaluate the information they receive regarding environmental issues so they can make informed and independent decisions.
- The student will communicate and defend their methodology and results using writing, graphical, and electronic forms in the class.
- The student will demonstrate their ability to download and use electronic resources and digital software such as Excel, various browser plugins and animations to support learning.

Course Expectations

This course is 100% on-line component that incorporates active learning. Active learning may require a more intensive effort on the part of the student because you will have to gather information on your own as directed by the instructor instead of listening to a lecture.

Coursework is laid out in Learning Modules and should be accessed via the Learning Module link. The Learning Module page includes not only links to each individual module and graded work but also to the assignment and discussion introduction.

You correspond with the instructor and with other students via the Email link when not in class. Your e-mail message will only go to those people you designate. In contrast, postings using the Discussion link are posted so that everyone in the class can read the posting and respond. The Discussion tool will be used in each Learning Module. Feel free to initiate discussions if you have questions or see something of interest to the class as a whole. I may edit and organize discussion postings as needed. If you have questions, there are several means in which to get an answer: send the instructor a message, or, if you are having technical difficulties, contact the Help Desk.

We will be taking advantage of internet resources and software in this course, so expect to download and install needed software and to use programs such as Excel, your computer imaging processing program (such as Paint or Preview), take digital photographs, and install web browser plugins as needed. If you aren’t comfortable with your computer please expect the activities to take extra time while you are learning. Don’t hesitate to contact the Help Desk for technical assistance. They are trained in answering those types of questions. The
Assessment

Grades will be based on the following criteria and will be assigned using the scale:

- A = 90-100%
- B = 80-89%
- C = 70-79%
- D = 60-69%
- F = < 60%

Procedures

- Class work will be posted and should be accessed under the Learning Modules tab. Each Learning Module will include: an introduction to the topic and class activities. Due dates are given on the schedule. **DO NOT MISS CLASS. It is important to come every week.**
- You should access each Learning Module as soon as you can and note what needs to be done and plan your work accordingly. If you have any questions, please don’t hesitate to ask.
- I will typically visit the electronic classroom daily and will try to acknowledge all e-mails within 2-4 hours during the workweek until 5pm. Questions and messages posted after 5 pm or over the weekend may not be acknowledged until the following day.
- Extra credit, if/when offered, is offered to the entire class, not to individuals.
- For technical difficulties please contact the Help Desk. I may also be able to help you trouble-shoot.
- I make every attempt to present this class free of errors, but they do happen. If you see an error (due date, quiz question, etc.) please email me and let me know so I can fix it ASAP.
# Course Outline

<table>
<thead>
<tr>
<th>Topic Description</th>
<th>Activities &amp; Due Dates</th>
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<tbody>
<tr>
<td></td>
<td>Discussion 1: Jan 19  Assignment 1: Jan 20</td>
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<tr>
<td>Learning Module 1</td>
<td>Discussion 2: Initial post: Jan 21, replies: Jan 22  Assignment 2: Jan 25</td>
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<tr>
<td>What is Science?</td>
<td>Discussion 3: Initial post: Jan 26, replies: Jan 27  Science Project 1: Jan 28</td>
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<td></td>
<td>Survey: Jan 31  Assignment 3: Feb 1  Assignment 4: Feb 8</td>
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<tr>
<td>Learning Module 2</td>
<td>Discussion 4: Initial post: Feb 3, replies: Feb 4  Assignment 4: Feb 8</td>
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<td>Assignment 6: Feb 22  Discussion 6: Initial post: Feb 17, replies: Feb 18</td>
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<tr>
<td>Learning Module 3</td>
<td>Assignment 6: Feb 22  Discussion 7: Initial post: Feb 23 replies: Feb 24</td>
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<tr>
<td>Doing Science</td>
<td>Assignment 7: Mar 1  Discussion 8: Initial post: Mar 3, replies: Mar 4</td>
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<td>Assignment 8: Mar 8  Discussion 9: Initial post: Mar 10, replies: Mar 11</td>
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<td>Learning Module 4</td>
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<td>The Process of Science</td>
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## Assessment & Grading Criteria

**Assignments: 45%**

Each Learning Module will have an accompanying assignment. These assignments are intended to provide examples of the concepts covered and how scientists work.

Assignments will be graded on a 10 point scale. The grade will be based both on content and on completeness of the response (see below). Assignments are due on the indicated due dates. If you want your work reviewed, turn it in early and you can then revise. Must turn in by the due date.

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
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<tr>
<td>9-10</td>
<td>The activity is complete and correct. It shows insight and careful reflection on the topic. It is well written with complete sentences that respond to the questions.</td>
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<tr>
<td>8-9</td>
<td>The activity is essentially complete. The learner shows understanding of the topic although there are minor errors they are not conceptual in nature.</td>
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- **Learning Module 5**
  - Ideas in Science
  - Assignment 9: Mar 22
  - Discussion 10: Initial post: Mar 24, replies: Mar 25
  - Assignment 10: Mar 29
  - Discussion 11: Initial post: Mar 30, replies: Mar 31
  - Science Project 3: Apr 1

- **Learning Module 6**
  - Research Methods
  - Assignment 11: Apr 5
  - Discussion 12: Initial post: Apr 7, replies: Apr 8
  - Assignment 12: Apr 12
  - Discussion 13: Initial post: Apr 14, replies: Apr 15

- **Learning Module 7**
  - Visualizing Data
  - Assignment 13: Apr 19
  - Discussion 14: Initial post: Apr 21, replies: Apr 22
  - Assignment 14: Apr 26

- **Learning Module 8**
  - Scientific Communication
  - Science Project Presentation: May 2, replies: May 3
The activity is missing one or two answers or there are complete or there are errors in the work that reflect a misconception or lack of understanding.

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<th>The activity is lacking more than one answer. Work is poorly done or displayed and does not demonstrate understanding of topics.</th>
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<td>&lt;6</td>
<td>Does not effectively address the activity, major portions are missing.</td>
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### Discussion Guidelines:

- Read all postings and respond to a variety of classmates. If you see someone has not gotten a response to their posting, please respond to them before posting to anyone else.
- Quote the relevant parts of any posting to which you are replying.
- There are no verbal or facial cues in our discussion area so be aware that what you type may not be what your classmates may think you are trying to convey. The use of ?!!! or ??? may be viewed as anger or aggression.
- Flaming (i.e. deliberate rudeness, curse words, put-downs) will not be tolerated and will result in a -0- for the discussion. A good rule of thumb is: it you wouldn't say it to the person face-to-face, don't type it.
- Please don't type your message in all caps. This is considered SHOUTING.
- Think before typing or taking offense at what a classmate has written. This is where the use of emoticons may help. Emoticons are faces such as: ;->, ;(, :-@, or LOL (laughing out loud). These, however, do not count as sentences!

### Science e-Project: 10%

You will be expected to participate in a Zooniverse project, which is a citizen scientist web portal. You will pick out a project from the provided list and follow through the project throughout the semester then present your project as a website, using Google Slides (or equivalent). Your website should be set up in a systematic manner. It will be posted in the discussion forum and reviewed by your classmates. Presentation will be important!

### Guidelines rubric:

4=Quality, 3=acceptable, 2=Could Use Work, 1=Needs Additional Work

1. **Shows knowledge of the Scientific Process**
   - 4 pt.: Explains all elements (Title, Purpose, Hypothesis, Materials, Procedure, Results, Conclusions), shows understanding of conclusion.
   - 3 pt.: Explains at least 6 elements, shows understanding.
   - 2 pt.: Explains most of the elements.
   - 1 pt.: Inadequate explanation of elements.

2. **Shows use of the Scientific Process through the presentation.**
   - 4 pt.: Presents steps of method clearly and completely with headings.
   - 3 pt.: Presents each step of method clearly.
   - 2 pt.: Has each step.
   - 1 pt.: Has some steps.

3. **Shows enthusiasm and interest in the project.**
   - 4 pt.: The presentation is interesting to read and meets my expectations of a college student.
   - 3 pt.: The presentation is interesting to read.
   - 2 pt.: Students tells about the project.
   - 1 pt.: Student shows little enthusiasm or interest in the project.

4. **Knowledge about the project**
4 pt.: Student eagerly presents many details of the experimentation.
3 pt.: Student shows understanding of the project.
2 pt.: Student knows what the project is, giving minimal explanation.
1 pt.: Student shows minimal knowledge of the project.

5. **Presents scientific data in a well-organized, visually appealing presentation**
   - 4 pt.: Presentation shows data in clear tables, charts, or pictures with headings.
   - 3 pt.: Presentation is neat and attractive, limited table, chart or pictures.
   - 2 pt.: Presentation has headings, using information stated.
   - 1 pt.: Presentation has headings and limited information.

6. **Shows written evidence of research, experimentation and analysis**
   - 4 pt.: Presentation has all the elements present.
   - 3 pt.: Presentation has most elements present.
   - 2 pt.: Presentation has some elements present.
   - 1 pt.: Presentation of elements are minimal or nonexistent.

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**UTEP Policies for Students**

**Informed Consent:** Some individuals may choose to disclose personal information during class. Therefore, it is important that all classmates agree not to discuss or write about what others have discussed in class.

**Disability Statement:** Services for students with disabilities are provided through the Academic Support Center’s Disability Services Office. Some examples of the assistance provided are: audio materials for the blind or dyslexic, note takers, readers, campus guides, audio recorders, a quiet testing area, and undergraduate academic tutors. In order to qualify for these services, documentation must be provided by qualified professionals on an annual basis. Disability Services forms are available in the Academic Support Center.

**Military Statement:** If you are a military student with the potential of being called into military service and/or training during the course of the semester you are encouraged to contact the instructor regarding these matters.

**Professionalism:** Students are learning professional skills and are expected to engage in classroom discussions, complete reading assignments and turn in assignments in a timely fashion as befitting professional behavior.
**Scholarly Writing:** Use clear college level writing with correct spelling and grammar for all assignments. If you need help in writing, check with the UTEP Writing Center.

**Integrated Use of Technology:** Because this is an online course, I am making the assumption that you are comfortable utilizing a computer, and navigating various software programs like Microsoft Word, Powerpoint. If you have any questions about computer requirements see the Student Resources in Blackboard.

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**Need Help?**

1. Post a question to the Discussion Board. There is no such thing as a dumb question.
2. Post a question as a Blackboard email to your instructor.
3. Click on the Help button in Blackboard.
4. If the Blackboard system goes down or you have other technical questions, contact the UTEP Help Desk

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**Academic Integrity Policy and Procedures:** Each student shall observe standards of honesty and integrity in academic work completed at UTEP. Students may be penalized for violations of the Academic Integrity policy. Please refer to the Academic Integrity section in the current UTEP Catalog. (Clearly specify what you consider to be violations of academic honesty.)

**Caveats:** The schedule and procedures in this course are subject to change in the event of extenuating circumstances.

**Code of Civility:** In order to promote a positive, professional atmosphere among students, faculty and staff, the following Code of Civility has been developed:

- **Respect:** Treat all students, faculty, staff and property with respect and in a courteous and professional manner. This includes all communications, whether verbal or written. Let your actions reflect pride in yourself, your university, and your profession.
- **Kindness:** A kind word and gentle voice go a long way. Refrain from using profanity, insulting slang remarks, or making disparaging comments. Consider another person’s feelings. Be nice.
- **Truth:** Exhibit honesty and integrity in your dealings with fellow students, faculty and staff members. Don’t lie, don’t cheat, and don’t steal.
- **Responsibility:** Take responsibility for your actions. This includes gracefully accepting the consequences of your behavior.
- **Cooperation:** Exhibit a cooperative manner when dealing with students, faculty and staff so we may all work towards our common goals and mission.
- **Acceptance:** Accept differences in others, as they accept differences in you. This includes diversity in opinions, beliefs and ideas and everything else that makes us unique individuals.
- **Professionalism:** Always conduct yourself in a manner that will bring pride to your profession, to the University of Texas at El Paso, and, most importantly, to yourself.