

# University of La Verne: Home of the Leopards

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## NATSCI 102, Physical Science – The Human Environment

**Instructor:** Chris Morgan

**CRN:** 2326 or 2385, 3.0 credits + 1 Lab science credit (4 credit course)

**Contacts:** Instructor can be reached at [cmorgan@laverne.edu](mailto:cmorgan@laverne.edu), or cell phone at (909) 267-8596

**Office:** Mainiero Building Rm. 152 G **Office Hrs:** Currently none, may be arranged

**Text:** Bill W. Tillery, Physical Science 11<sup>th</sup> Edition

### **Description:**

This is an introduction to the physical sciences. Physical Science includes subject areas of physics, chemistry, geology, meteorology, oceanography, and astronomy. While the emphasis is on conceptual understanding, students are expected to have a basic background in algebra, which assumes fundamental quantitative skills (math).

Topics that are addressed in this course include: the nature of science and the scientific method; the laws of forces and motion; the study of energy, heat, and energy changes; the basics of electricity and magnetism; physical and chemical properties of matter; waves; sound; light; atomic structure; the elements and the Periodic Table; chemical compounds; formulas and equations; water and solutions; the solar system and universe; the structure and composition of the Earth; Earth's atmosphere and water.

As you can tell, this course covers a wide range of topics – it is a survey course i.e. we can only discuss the big ideas and will not have time to “dive into the depths of individual topics”. I do recommend if you enjoy a particular topic that you take a subject-specific class later in your studies.

### **Assignment Routine:**

The course is divided up into weeks. A week runs from Sunday to Sunday at midnight.

### **Quiz Routine:**

First, each week you will look over a set of lecture chapter notes (power points), and then complete a set of quizzes associated with the chapters. The notes are found in the “Course Documents” and the quizzes are found in the “Assignments”. You will have one full week to complete the quizzes – they are untimed and can be taken repeatedly. You should take them until you get 100% of the questions right. See schedule section for which chapters are for which weeks.

\*The quizzes prepare you for the tests. Tests are based on the quizzes; you might even see similar or identical questions from the quizzes on the tests. Please take the quizzes seriously.

### **Test Routine:**

There will be four tests: one after week 2, the second after week 5, the third after week 8, and the fourth after week 9. Tests are not cumulative. You will have one week to finish the test. Tests are timed (1 hour 30 minutes) and you are allowed **one** attempt. Please use Mozilla FireFox as your internet browser for timed tests. Blackboard does not like Internet Explorer for timed tests. Tests will also be found in “Assignments”.

\*Quiz and Test questions will be in the format of True/False, Multiple Choice, and Matching. I will see your science writing in lab activities so there are no essays or short answer questions.

### Lab Activity Routine:

There will be a total of five lab activities. Lab activity #1 will be due at the end of week 2, lab activity #2 due at the end of week 4, lab activity #3 due at end of week 6, lab activity #4 due at end of week 8, and lab activity #5 due at end of week 10.

Lab activities can be found in the “Lab Activities” section, but you will submit your lab work in the “Discussion Board” section. Please comment on your lab and attach your lab work with a picture of you performing the lab activity (word document, pdf., or jpg.). If you have a hard time attaching a single file of your lab work, please mail it to: University of La Verne, Attn: Natural Sciences Department – Chris Morgan, 1950 Third Street, La Verne, California 91750. If mailing your lab, please continue to post a comment in the “Discussion Board” section.

### Resources:

Please feel free to contact me by e-mail or phone. I will always check my e-mail Monday – Friday in the morning hours unless a family emergency or some other unfortunate event. Therefore, you should get a 24 hour response during the weekday. I am generally not available on the weekend – let’s try and communicate as much as possible during the weekday.

Your textbook has some wonderful information and can be found by clicking on the “Textbook” section on our course page. Use the textbook for reference; but note that it is a resource not a requirement (no points given).

The “Discussion Board” can also be used to communicate with your peers to post questions or helpful hints/advice. But, just like the “Textbook” section, it is not required (no points given). This will be a separate thread/entry than your lab activities. Please do **not post** your lab activities where your peers are communicating about the course.

### Point Breakdown:

Quizzes (21)	= 210 pts
Test #1	= 50 pts
Test #2	= 50 pts
Test #3	= 50 pts
Test #4	= 50 pts
Lab Activity #1	= 50 pts
Lab Activity #2	= 50 pts
Lab Activity #3	= 50 pts
Lab Activity #4	= 50 pts
Lab Activity #5	= 50 pts
<b>TOTAL</b>	<b>= 660 pts</b>

### Grading Scale:

93% and up	= A
90-92	= A-
88-89	= B+
83-87	= B
80-82	= B-
78-79	= C+
73-77	= C
70-72	= C-
60-69	= D
59 down	= F

**Schedule:****Week 1:** (3/26 –4/1)

What is Science? Ch 1, and Motion Ch 2

Lab Activity #1 – Tuning the Senses Due April 8<sup>th</sup>**Week 2:** (4/2 – 4/8)

Energy Ch 3, and Heat and Temperature Ch 4

**Week 3:** (4/9-4/15)**Test #1** (Ch 1, 2, 3, 4) Available April 9<sup>th</sup> Due April 15<sup>th</sup>

Wave Motions and Sound Ch 5, Electricity Ch 6, and Light Ch 7

Lab Activity #2 – Mirror, Mirror, on the Wall...: Due April 22<sup>nd</sup>Lab Activity #5 – Phases of Moon: Start but not Due until June 3<sup>rd</sup>**Week 4:** (4/16 – 4/22)

Atoms and Periodic Properties Ch 8, and Chemical Bonds Ch 9

**Week 5:** (4/23 – 4/29)

Chemical Reactions Ch 10, and Water and Solutions Ch 11

Lab Activity #3 – Kitchen Chemistry Due May 6<sup>th</sup>**Week 6:** (4/30 – 5/6)**Test #2** (Ch 5, 6, 7, 8, 9, 10, 11) Available April 30<sup>th</sup> Due May 6<sup>th</sup>

The Universe Ch 14, The Solar System Ch 15, and Earth in Space Ch 16

**Week 7:** (5/7 – 5/13)

Rocks and Minerals Ch 17, and Plate Tectonics Ch 18

Lab Activity #4 – Rock Hunt Due May 20<sup>th</sup>**Week 8:** (5/14 – 5/20)

Building Earth's Surface Ch 19, and Shaping Earth's Surface Ch 20

**Week 9:** (5/21 – 5/27)**Test #3** (Ch 14, 15, 16, 17, 18, 19, 20) Available May 21<sup>st</sup> Due May 27<sup>th</sup>

The Atmosphere of Earth Ch 22, Weather and Climate Ch 23, and Earth's Waters Ch 24

**Week 10:** (5/28 – 6/3)**Test #4** (Ch 22, 23, 24) Available May 28<sup>th</sup> Due June 3<sup>rd</sup>**Note: This Syllabus is tentative and subject to change**

\* Helpful Advice – Print the schedule out and cross things off when you complete the quiz, test, and lab. Plus you can check your scores in the “My Grades” section of your Blackboard account.

\*Finally, It is inevitable that some of us will have troubles with Blackboard (me included). We will fight through it and WIN. Therefore, please communicate any problems you might be having and we can work through it.

\*GO LEOPARDS!