COLLEGE OF THE SISKIYOUS
FIRST DAY HANDOUT - Spring 2011

COURSE TITLE, NUMBER, etc: ASTR 1- Astronomy CODE: 3359 Units: 3 Class Hours: 54
Time: Thurs 6:00 – 8:50 PM Place: Life Sciences 9 (LIFSCI 9)

INSTRUCTOR: David Carico **Phone:** [none] **Email:** carico@siskiyous.edu

PREREQUISITES: None **Advisory:** Math 56; English 52

REQUIRED TEXTBOOK: *Astronomy*, by Ian Ridpath (Dorling-Kindersley)

COURSE OBJECTIVES: *Upon successful completion of the course, the student will be able to:*

- Relate the motions of the Earth, Moon, and other bodies in the solar system to the daily, monthly, and yearly cycles we use to mark time
- Clarify the true nature of gravity according to Einstein's general theory of relativity.
- Understand the basic characteristics of both the particle and wave descriptions of light.
- Describe the evolution of the Universe from the Big Bang to the present.
- Recognize the difference between spiral, elliptical and irregular galaxies.
- Describe the basic structure of the Milky Way galaxy, and find where we are in it.
- Describe what a star is.
- Understand what white dwarfs, neutron stars, pulsars and black holes are.
- Understand each of the types of objects in our solar system: planets, moons, asteroids and comets.
- Recognize all of the planets, as well as the largest moons, by sight.
- Classify the physical characteristics of each of the planets of our solar system.
- Explain how the Earth is different from each of the other planets in the solar system and apparently unique in its ability to support life.
- Discuss what the color and brightness of a star tells us about its size, age, distance from Earth, and eventual fate.
- Appreciate our Sun's place in the vastness of the Milky Way galaxy and the Milky Way's place in the vastness of an ancient and ever-expanding universe.
- Describe what the SETI project is searching for.
- Explain the possible futures for our Universe.
- Know that the universe can be endless and not infinite, and have a center without having a center.
- Recognize when something is clearly "north of the North Pole!"

TOPICS COVERED:

- The night sky
- The nature of space, time, matter and light
- Telescopes
- The creation of the Universe
- Galaxies
- Stars
- Stellar remnants
- The Sun & our solar system
- Life in the Universe
- The future of the Universe

Resources for the course:

This course necessarily includes a *LOT* of material. Most of this material is in the textbook *but not all of it!* What is not covered in the book will be covered in class lectures; hence, *in order to do well in the class you are expected to*:

- Read all of the assigned material in the textbook
- Attend all of the class lectures

Much of the material can also be found on the internet, and I will provide web sites to use as alternate resources whenever possible. If you have any questions about material that you have missed contact me as soon as possible.

GRADING:

Written questions: 5 % At the end of each class you are expected to hand in three or more written *questions* that you have relating to astronomy. All of the questions together will count 5 % towards your grade in the course.

Homework and miscellaneous in-class assignments: 10 % Every week there will be homework assignments. These assignments are due the following week at the beginning of class. Also, there may be occasional (and possibly unannounced!) in-class assignments. All of these assignments together will count 10 % towards your grade.

Observing log: 10 % You will be keeping a log of astronomical observations throughout the course. (Details are on a separate handout.) This completed log will count 10 % towards your grade in the course.

Astronomy symposium: 10 % You will choose a research topic and present the results of your research at the *Astronomy Symposium* which will take place towards the end of the semester. (Details are on a separate handout.) This presentation will count 10 % towards your grade in the course.

In-class quizzes: 10 % There will be a very short quiz at the *end* of each class meeting. These quizzes together will count 10 % towards your grade in the course.

Mid–term exams: 15 % each = 30 % total There will be three exams during the semester. I will drop your lowest score. The remaining two exams will count 15 % each for a total of 30 % towards your grade in the course.

Final exam: 25 % There will be a cumulative final exam at the end of the semester that will count 25 % towards your grade in the course.

Extra credit: Large extra credit assignments, such as written papers, book reports, etc., will not be offered. *If you expect to do well in the class you must do the required assignments*. However, opportunities for small amounts of extra credit will be made available throughout the semester. Also, you can obtain extra credit towards your grade by attending an "official" astronomy related event. Examples include:

- A show at any planetarium such as Shreder Planetarium in Redding.
- A public lecture that is related to astronomy.
- Any public "star party" Astronomy clubs often have public "star parties," where people are invited to come by and look through the telescopes.

To receive credit for attending any of these events you must present me with a written note that includes the signature of the person who led the event, your name, and the date of the event.

Grading policy: A = 90 – 100 %; B = 80 – 89.9 %; C = 65 – 79.9 %; D = 50 – 64.9 %; F = less than 50 %

Late or missed assignments:

- Written questions for a particular week must be turned in on time. If you are unable to make it to class they can be left in my mail box on campus, emailed to me, or given to someone who will turn them in for you.
- Homework assignments can be turned in late for half credit.
- If you know in advance that you will be unable to take an exam at the scheduled time, or if you miss an exam because of an emergency, let me know as soon as possible so that a make-up opportunity can be arranged.

Attendance: I am expecting you to be here at every class session. In-class assignments can not be made up, *even those that were previously unannounced*. If you miss an in-class assignment you will receive a zero for that assignment.

WITHDRAWAL: It is *your* responsibility to officially withdraw from the class if you decide to discontinue your involvement. If you stop showing up and do not officially withdraw *you will receive an F at the end of the term!*

INCOMPLETE GRADES: Students who are unable to complete the class due to circumstances that are beyond their control *might* be eligible for an "Incomplete" grade. However, this grade will be given *only* at the instructor's discretion. Please see the instructor as soon as possible if you feel this situation may apply to you.

ACADEMIC HONESTY POLICY: Academic dishonesty is the willful and intentional fraud and deception for the purpose of improving a grade or obtaining course credit, and includes all student behavior intended to gain or provide unearned academic advantage by fraudulent and/or deceptive means. The student has the full responsibility for the content and integrity of all academic work submitted. Ignorance of a rule does not constitute a basis for waiving the rule or the consequences of that rule. Students unclear about a specific situation should ask their instructor, who will explain what is and is not acceptable in their classes. Violation of this policy will result in appropriate disciplinary action.

Examples of such unauthorized behavior include but are not limited to:

- Receiving aid during an exam from anyone other than the instructor.
- Using unauthorized materials during an exam.
- Giving unauthorized aid to a student taking an exam.
- Submitting someone's work as your own. This includes "sharing" assignments—that is, working together on an assignment and turning in identical answers.

** The penalty for cheating is an "F" on the assignment, and possible immediate dismissal from the class.

STUDENTS WITH DISABILITIES: If you anticipate the need for reasonable accommodations to meet the requirements of this course, you must register with the Disabled Students Programs & Services (DSPS). If you qualify for services through DSPS, bring your official notification of your accommodation needs to me as soon as possible.

Here is what I am assuming of you:

1. That you have read this sheet thoroughly
2. That you are an intelligent, creative individual, fully capable of handling the work this course includes
3. That you are a mature adult fully capable of taking responsibility for your involvement in the course

Helpful tips:

- *Read through all of the recommended reading at the beginning of the week.* This will help you understand what I talk about in class, and whatever doesn't make sense you can ask about.
- *Ask questions in class!* Try to overcome any thoughts like, "I'm embarrassed" or "I'm stupid" (you're not—honest).
- *Make use of the internet* Although the internet is often given much more credit than it's worth (in my humble opinion...), it is a tremendous resource for information about astronomy.
- *Look up at the sky - especially at night!* Then let yourself wonder, and ponder, and think, and ask... It's an amazing Universe you're living in. Start noticing it!