ASTRONOMY 100 - Introduction to Astronomy

**Fall 2013**

**Instructor:** Darryl Stanford

**Lecture**: Tuesday and Thursday afternoons from 12:10 PM to 1:00 PM in 36-100. **All sections meet for the lecture**.

**Section**: Astr 100 AX Tuesday 10:10 - 11:00 AM Astr 100 CX Thursday 10:10 - 11:00 AM

Astr 100 BX Tuesday 11:10 - 12:00 PM Astr 100 DX Thursday 11:10 - 12:00 PM

**Office Hours**: Tuesday and Wednesday from 1:00 to 3:00 PM, Thursday from 6:00 to 7:00 PM and Friday from 2:00 - 3:00 PM in my office **36-105E**

**Office Telephone**: 650 574-6256

**Email address**: stanfordd@smccd.edu

**My Website address**: http://www.smccd.net/accounts/stanfordd

**Astronomy Department website address**: [http://collegeofsanmateo.edu**/astronomy/**](http://collegeofsanmateo.edu/astronomy/)

**Text: The custom edition of the Cosmic Perspective - Bennett, Donohue, Schneider, Voit, 7th edition. This book has a different cover and 4 fewer chapters than the regular Cosmic Perspective and is cheaper!**

**Description:** This is an introductory astronomy class for students who know nothing about astronomy. We will cover the sun, planets, stars, black holes & other interesting stuff. In the reading, you will come across some mathematics that you may not understand. If the mathematics scares you, DON'T PANIC! You will not have to perform any calculations. However, you will be required to understand what a few equations mean and how they are used. There will be relatively few of them. Above all, don't be afraid to ask questions because that is the only way you will learn!

**CLASS FORMAT**: The class lessons will consist of a mixture of in-class lecture notes, planetarium presentations, and videos. There are 4 recitation sections in this class: AX, BX, CX. DX. Students **must** attend one of these recitation sections, in addition to the regular lecture. The recitation sections will elaborate on the supplementary sections in the book as well as topics talked about in class.

**iClickers:** We will be using the ver 2 iClicker for in-class questions, test review questions, class participation and to provoke discussions. Clicker points will be normalized to 40 points or 10% of your grade and is **mandatory** for the class. Rent them from the bookstore for $16 for the semester. See the **iClicker Handout handout** for more info.

**NOTES, HANDOUTS:** The lecture notes and handouts are on my website, http://www.smccd.net/accounts/stanfordd**.** To access the notes and handouts**,** go to my website and click on the **Astr 100 AA** link. Then click on the **Powerpoint files** link. The notes and any handouts are there.

**EXAMS**: The examinations will be taken from the lecture notes, which will be in Powerpoint format, videos, textbook as well as any handouts that may be given to you. **There will be three midterms and the final exam. I will drop your lowest scoring midterm exam. That also means, there will be no make-up exams.** If you miss an exam, that exam will count as your lowest one. Each exam will be worth 105 pts. It will consist of 50 multiple choice questions, worth 2 pts each, for a total of 100 pts and a short answer bonus question, worth 5 pts, for a total of 105 pts. **The mid-terms and final will be about 1 hour long. The final exam will not be comprehensive. It will cover where we left off after the 3rd midterm.**

**Extra Credit:** A student can get up to 30 points extra credit. You can get them by going to planetarium shows, observing sessions, etc and writing 2 pages on what you learned.

**PLAGIARISM**: If anyone is caught cheating on an exam, that person or those persons will get a **big fat zero** for that exam. **DON’T CHEAT!**

**CLASS ETIQUETTE**: Keep chatter to an absolute minimum. There is no eating or drinking (except water) in the planetarium. Please refrain from using your iPods and laptops during class. There is nothing as annoying or infuriating as students texting or staring at their laptops during class. If you feel that you must do so, please leave the class.

**HOMEWORK**: There will be numerous homework sets given out which will be due the following week. Each problem will be worth from 10 to 20 points for a total of ~200 points. But these points will be normalized to 60 points or 15% of your grade. **Important: The problems will be done online, using the Mastering Astronomy website that works with the textbook. In your new book, you will see an insert called the Student Access Kit. It contains all the info you need to access the site.**  **See the additional Mastering Astronomy handout**.

**STUDENT LEARNING OBJECTIVES**: Here are the student learning objectives for the class:

Upon completion of this course, a student will be able to:

* Explain the reason for the Earth’s seasons.
* State and recognize the importance of Newton’s Laws of gravity
* State and recognize the importance of Kepler’s Laws.
* Describe the basic properties of black holes.
* Assess the role of dark energy in determining the eventual fate of the universe.

**To Be Arranged or TBA hours:**This course requires one TBA hour to be done per week, or 16 TBA’s for the semester. These TBA hours are not homework but are instructional activities designed to augment the lecture portion of the course. See the **TBA Hours Handout**.

**GRADING**: Here is the total points breakdown:

Midterm Exams 200 pts

Final Exam 100 pts

Homework 60 pts

iClicker 40 pts

400 pts

**Day** **Topics/Assigned Reading**

Aug 20, 22 Ch 1 Our Place in the Universe, Ch 2 Discovering the Universe

Aug 27, 29 Ch 2 Discovering the Universe, Ch 3 The Science of Astronomy

Sept 3, 5 Ch 3 The Science of Astronomy, Ch 4 Making Sense of the Universe

Sept 10 Ch 4 Making Sense of the Universe

**Sept 12** ***Quiz 1 Ch 1, 2, 3, 4***

Sept 17, 19, 24Ch 5 Light and Matter

Sept 26, Oct 1, 3, 8 Ch 7 Our Planetary System, Ch 11 Jovian Planet Systems

**Oct 10** ***Quiz 2 Ch 5, 7, 11***

Oct 15, 17 Ch 12 Remnants of Rock & ice

Oct 22, 24 Ch 13 Other Planetary Systems, Ch 14 Our Star

Oct 29, 31, Nov 5 Ch 14 Our Star, Ch 15 Surveying the Stars

**Nov 7** ***Quiz 3 Ch 12, 13, 14, 15***

Nov 12, 14, 19 Ch 18 Bizarre Stellar Graveyard, Ch 19 Our Galaxy

Nov 21, 26 Ch 19 Our Galaxy, Ch 20 Galaxies

**Nov 28**  **Thanksgiving Recess, no class!**

Dec 3, 5 Ch 20 Galaxies

Dec 10 (last class) Ch 22 Dark Matter, Dark Energy

**Tuesday, Dec 17** **FINAL (covering stuff from Ch 18, 19, 20, 22 11:10 - 1:40 PM**