

## SYLLABUS AST-2003-U02, Solar System Astronomy,

Dr. Fiorella Terenzi - Instructor, Physics and Astronomy  
 Florida International University, Physics Department CP243  
 11200 SW 8th St ,Miami, FL 33199; Phone: 305-348-1287  
<http://www2.fiu.edu/~fterenzi/> email: fterenzi@fiu.edu

**Lectures:** TR 1400-1515, CP-151

**Office Hours:** Tuesday/Thursday Biscayne Bay North Campus, A1-329: 11:10 -12:10;  
 Wednesday Modesto A. Maidique Campus, CP243: 11-15:00

**TEXTBOOK:** Universe, by Freedman, Geller, Kaufman Publisher: Freeman, W. H. & Company, 9<sup>th</sup> edition

### COURSE DESCRIPTION

General principles of Astronomy with emphasis on the structure and evolution of the Solar System, the laws of planetary motion, and the physical aspects of the sun, planets, and interplanetary debris

### OBJECTIVES AND COMPETENCIES

Through classroom discussion and textbook study you are expected to achieve a basic understanding of the topics covered by the course. You should be able to define the scientific terms used in the course and be able to explain the concepts to a fellow student. You need enough high school algebra background to understand exponents such as squares, cubes, and powers of ten. "Word problems" and equation solving are not a central issue and mathematical concepts will be fully explained as we encounter them in the course. The course includes the following topics:

Date	Chapter	Course Outline
8/21/2012	Tuesday 1	Astronomy and the Universe
8/23/2012	Thursday 2	Knowing the Heavens
8/28/2012	Tuesday 2	Knowing the Heavens
8/30/2012	Thursday 3	Eclipses and the motion of the Moon
9/4/2012	Tuesday 4	Gravitation and the Waltz of the Planets
9/6/2012	Thursday 4	Gravitation and the Waltz of the Planets; RECAP
<b>9/11/2012</b>	<b>Tuesday</b>	<b>TEST 1</b>
9/13/2012	Thursday 5	Optics and Telescopes
9/18/2012	Tuesday 6	The Nature of Light
9/20/2012	Thursday 6	
9/25/2012	Tuesday 7	Potential energy and Energy conservation
9/27/2012	Thursday 7	Comparative Planetology I: Our Solar System, RECAP
<b>10/2/2012</b>	<b>Tuesday</b>	<b>TEST 2</b>
10/4/2012	Thursday 8	Comparative Planetology II: The Origin of Our Solar System
10/9/2012	Tuesday 9	
10/11/2012	Thursday 9	The Living Earth
10/16/2012	Tuesday 10	Our Barren Moon
10/18/2012	Thursday 10	Our Barren Moon; RECAP
<b>10/23/2012</b>	<b>Tuesday</b>	<b>TEST 3</b>
10/25/2012	Thursday 11	Mercury, Venus, Mars, Earthlike yet Unique
10/30/2012	Tuesday 11	
11/1/2012	Thursday 12	Jupiter and Saturn: Lords of the Planets
11/6/2012	Tuesday 13	Jupiter and Saturn's Satellites of Fire and Ice
11/8/2012	Thursday 13	Jupiter and Saturn's Satellites of Fire and Ice, RECAP
<b>11/13/2012</b>	<b>Tuesday</b>	<b>TEST 4</b>
11/15/2012	Thursday 14	Uranus Neptune, Pluto and the Kuiper Belts: Remote Worlds
11/20/2012	Tuesday 14	
11/22/2012	Thursday -	Thanksgiving Nov 22- Nov. 25

11/27/2012	Tuesday	15	Vagabonds of the Solar System
11/29/2012	Thursday	16	Our Star, The Sun!
12/4/2012	Thursday	26	RECAP FINAL
<b>12/6/2012</b>	<b>Tuesday</b>	<b>FINAL</b>	<b>COMPREHENSIVE FINAL EXAM</b>

**GRADING POLICY:** You will have four tests and a Final Exam to establish your grade for the course. Each of the four tests will be worth 100 points. The comprehensive final exam will count for 100 points. The letter grade for the course will be calculated on the basis of a maximum total of 500 points. There are no makeup exams unless there was an extreme emergency or if you have contracted me prior to the test with a legitimate reason for missing it. No extra credit. If you miss one test, your final exam score will be used as a substitute score. Additional missing test scores will count as zeros. Your grade will be determined by taking the total of all the points you have earned. The FINAL EXAM is comprehensive and covers all sections of the course. The subject of physics is inclusive so material covered in earlier tests is needed for solving problems on later tests. The grading scale for a single test and total points at the end of the term is printed below. The exams are closed book. A formula sheet will be allowed. In borderline cases, consideration will be given to a student's attendance record and other factors related to academic performance such as class participation and contribution.

The grading scale for a single test and total points at the end of the term is printed below. In borderline cases, consideration will be given to a student's attendance record and other factors related to academic performance.

	A	B	C	D	F
Single Test	90-100	80-89	65-79	55-64	0-54
Total Points	450 or more	400 - 449	325 - 399	275 - 324	0 - 274

**EXTRA CREDIT POINTS:**

**"Hand-written notes"** taken in class will be checked twice on a voluntary basis during TEST 2 and TEST 4 for a total of 5+5=10 points. The notes will be evaluated on scientific accuracy and methodology, completeness of material and organization skills.

**"Latest Science News"** relevant to student's field of interest are worth 1 point; 3 students per week will be chosen between the volunteers, student will have max 40 seconds to deliver the Latest Science News in a scientific, journalistic, public speaking style to the classroom.

**"4E Science Video"** inspired by an astronomical phenomena illustrated in class. Create a 4E=Entertain, Educate, Enlighten, and Enthral video using high resolution images, add one or two short scientific sentences to the presentation material, give it a storyline, add music as appropriate, maximum 3-4 minutes length. Each 4E Science Video will be worth 5 points; max two per semester.

**ATTENDANCE:** Punctual, reliable attendance is expected. Excessive absence during a regular 16 weeks semester is defined as missing more than 4 classes for a course which meets 2 times each week. Unsatisfactory progress may be regarded as missing 2 or more tests or an exceptionally low average on test scores.

**ACADEMIC INTEGRITY:** Cheating is considered a very serious offense and all offenders will be dealt with harshly. The *minimum* penalty for cheating on an exam will be a zero on the exam with the possibility of automatic failure for the course or a recommendation of expulsion from the university. All students should be familiar with the [FIU Student Code of Conduct](#). Do not come to class to socialize! Anyone disrupting the class by talking, reading the paper or coming in late (or leaving early) will be asked to leave immediately.

**IN GENERAL:** Your best bet for doing well in this course is to attend all of the lectures and do all of the assigned homework. Reading the text will provide a different perspective on the topics covered in the lectures. Don't expect to do well by putting off the homework and cramming for tests. The only way to learn physics is to keep on top of the subject and by

practicing your problem-solving skills. **Don't get behind.** The material builds on itself and getting behind early will make it very difficult to catch up.

*Florida International University is a community dedicated to generating and imparting knowledge through excellent teaching and research, the rigorous and respectful exchange of ideas, and community service. All students should respect the right of others to have an equitable opportunity to learn and to honestly demonstrate the quality of their learning. Therefore, all students are expected to adhere to a standard of academic conduct, which demonstrates respect for themselves, their fellow students, and the educational mission of the University. All students are deemed by the University to understand that if they are found responsible for academic misconduct, they will be subject to the Academic Misconduct procedures and sanctions, as outlined in the Student Handbook.*

**Please turn off all cell phones and pagers during class.**

"I discovered I always have choices and sometimes it's only a choice of attitude!"