



ASTR 1010 SYLLABUS

Course title: Astronomy of the Solar System
Class hours: 3

Catalog Number: ASTR 1010
Credit hours: 3

Instructor Dr. Charles Johnson
Office 121 B Stubbs Hall
Telephone number 389-4360
E-mail cjohnson@sgc.edu
Class web page <http://faculty.sgc.edu/cjohnson/Classes/1010astr/astr1010.html>

Schedule

 Dr. Johnson's Class Schedule For Fall 2009 					
	Monday	Tuesday	Wednesday	Thursday	Friday
8:00-8:59 AM	PHYS 1111/2211		PHYS 1111/2211		ASTR 1010 8:00-10:30
9:00-9:59 AM	8:00-9:15		8:00-9:15		
10:00-10:59 AM	Office Hour	Office Hour	Office Hour	Office Hour	
11:00 -11:59 AM					
12:00-12:59 PM					
1:00-1:59 PM	PHYS 2211 Lab	ASTR 1010 Lab			
2:00-2:59 PM	1:00-2:50	1:00-2:50			
3:00-3:59 PM	PHYS 1111 Lab	Office Hour	Office Hour	Office Hour	
4:00-4:59 PM	3:00-4:50 PM				
5:00-5:59 PM					
6:00-6:59 PM					

Textbook

Authors	Title	Publisher	Edition
Bennett, Donahue, Schneider, Voit	<i>The Solar System</i> <i>(The Cosmic Perspective)</i>	Addison Wesley	5 th

NON-STUDENT POLICY: It is campus policy that children and visitors may not be present in classrooms when classes are in session or laboratories at any time.

Course Description

ASTR 1010 Astronomy of the Solar System

Astronomy from early ideas of the cosmos to modern observational techniques. Topics include solar system, planets, satellites, and minor bodies. The origin and evolution of the solar system.

Prerequisite: MATH 1101 or 1111. 3-0-3.

Course objectives

In completing the course, the student should:

- 🍷 Develop an appreciation for the historical origins of astronomy.
- 🍷 Develop an understanding of the physical laws governing the motions of the solar system.
- 🍷 Develop an understanding of the physical properties of planets.

Classroom rules of conduct

For the benefit of your fellow students and your professors, you are expected to practice common courtesy with regard to all course interactions. For Example:

- 🍷 **Show up for class on time.**
- 🍷 **Do not talk during class lectures.**
- 🍷 **Turn off your cell phone.**
- 🍷 Do not leave class early, and do not rustle papers in preparation to leave before class is dismissed.
- 🍷 Be attentive in class; don't study for your other classes, etc.
- 🍷 If you must be late or leave early on, a particular day please inform your professor in advance.

A Word about Astronomy

This is a science class and, therefore, it has similarities to all other science classes. Some students believe that if they can follow the lectures in class, then they have learned the material. This is not true. To understand astronomy, a student must do a significant amount of work outside of class thinking about, and interacting with, the course material. No one ever learns by simply reading about it or listening to someone talk about it. You learn it by making the effort to understand the material, building mental pictures, and by critically thinking about the principles learned. The standard requirement in a college class is that you spend two hours outside class working on the material for every hour in class. Since this is a three-hour class, you should plan on spending at least six hours per week outside of class interacting with the material. Few students will be able to succeed in this class without investing that amount of time.

Course content

- 🍷 The Essence of Astronomy—what are astronomy, constellations, annual motions, eclipses.
- 🍷 The Early History of Astronomy—Babylonian astronomy, Greek developments, the Ptolemaic system.
- 🍷 Renaissance Astronomy—Copernicus, Kepler's laws of planetary motion, Galileo.
- 🍷 The Laws that Govern Motion—Newton's laws of motion, gravity, energy, angular motion and orbits.
- 🍷 Light and Telescopes—the nature of light, spectral lines, types of telescopes.
- 🍷 The Solar System—origins of the solar system, the Earth-Moon system, the terrestrial planets, the gas giants, interplanetary matter.
- 🍷 Chances of Companionship—origins of life, the Drake equation.

While taking this class:

- 👤 Graduates will demonstrate sufficient knowledge of natural laws and processes to understand scientific issues in a modern society.
- 👤 Graduates will demonstrate the ability to use appropriate technology to produce presentations and reports and/or conduct research and data analysis.

Activities, evaluation, and make-up policy

Since this is a two and a half hour class I plan on breaking up the class into three main parts. I will try to structure the class so that it is not just me talking and you listening for the total time. If you are accustomed to just showing up for class and not preparing ahead of time then this may not be the class for you. You will be expected to read your textbook ahead of time and watch some on-line lectures before the class meets. If I find that a student has not done the work ahead of time and is not prepared to participate in the class they will be asked to leave and will get a zero for that week's work. The three main parts of the class are:

- 1) **Quiz**-A quiz on that week's chapter from the textbook. The quizzes will be taken electronically using clickers. You will be assigned a clicker to use throughout the semester.
- 2) **Lecture**-Based on the results of the quiz I will talk about some of that week's topics.
- 3) **In-class Activities**-There will be some group work. **These in-class activities cannot be made up**, so be sure to come to all classes.

There will also be three tests and a comprehensive final exam. There will be two reports due throughout the semester (see handout). Your grade will be based on:

2 Reports @14% each	28%	Course Grade	Letter Grade
In-class work	5%	90 or above	A
Quizzes	5%	80-89	B
Final Exam	20%	70-79	C
3 Tests @ 14% each	42%	60-69	D
		Less than 60	F

No make-up tests will be offered to students who are absent for tests during the semester unless you have a documented college approved excuse. Make-up tests will consist of 20 short answer questions. Make-up tests will be much more difficult.

HARDSHIP WITHDRAWAL: A hardship withdrawal may only be sought after midterm in the case of a non-academic hardship such as severe extended illness. The procedure for seeking a hardship withdrawal is located on page 65 of the college catalog.

ATTENDANCE POLICY

The following is the attendance policy as outlined in the Student Handbook:

- 1) Each division will establish attendance policies for each course.
- 2) Work may be made up in case of absences with legitimate excuses. Excuses may be judged legitimate by the instructor involved. If the instructor does not accept the student's excuse, the

appeal procedure will be the same as the grade review procedure.

- 3) Group excuses for college-sponsored activities from the Office of the Vice President for Student Affairs will be considered legitimate excuses.
- 4) It will be necessary that the requirements for each course be distributed at the first meeting of the class.

To get the most from any course, each student should attend all the scheduled classes and laboratory periods. However, in a case where that is not possible, the Division of Natural Sciences and Mathematics has the following specific requirements:

- 1) A student will be assigned the grade of zero for any assigned class work or exam missed because of an absence if the absence is not excused by the instructor.
- 2) A student will be given a grade of zero for any assigned work or exam missed because of an excused absence if the work missed is not made up.
- 3) The maximum number of class days that a student can miss and still receive credit for a class is twice the number of weekly meetings.

Special Needs Statement

Students requiring classroom accommodations or modifications because of a documented disability should discuss this need with the instructor at the beginning of the semester. Students who have not presented validation for learning disabilities from the Regents' Center for Learning Disability (University System of Georgia) should complete all necessary paperwork and submit this to Ms. Angela Nuga in Student Support Services, Powell Hall 104. The telephone number is (912)-260-4435. Students who have not presented validation for physical disabilities should register with the Office of the Vice President for Student Affairs, Dr. Jim Cottingham, Powell Hall 213. The telephone number is (912)-260-4430.