Fall 2015

PHYS 1005

C. Gregory Seab
University of New Orleans

PHYSICS 1005: INTRODUCTORY ASTRONOMY:

Solar System Astronomy

MWF 9:00 – 9:50 AM in Science Bldg SC 2120

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Office Hours: 11:00 AM – 12:30 and 2:00 – 2:30 pm MWF or by appointment

TEXT: *The Cosmic Perspective*, 7th Ed., Bennett, Donahue, Schneider & Voit, **plus** MasteringAstronmy access (bundled with text in UNO Bookstore) *and* a clicker from i>Clicker.

LAB (recommended but not required): PHYS 1007 (offered Wednesday night)

SUPPLEMENTARY READING: *Sky and Telescope* and *Astronomy* magazines.

WEB SITE: www.uno.edu links to Moodle course site; www.MasteringAstronomy.com **UNOPHYS1005FALL2015**

PONTCHARTRAIN ASTRONOMY SOCIETY: This excellent amateur astronomy group meets one Friday of each month at 7:30 pm in room SC 1001 at UNO. See http://www.pasnola.org/

PLANETARIUM: There is an excellent planetarium located in the Rivertown area of Kenner. It has a world-class fiber optic projector. More information at http://www.kenner.la.us/pages/section_5_27.asp. You may also want to visit the St. Charles Parish Library Planetarium in Luling (http://www.facebook.com/SCPL.Planetarium).

OBSERVATORIES: The UNO Observatory has an Open House once per semester.
The Gretna Observatory is open every clear Monday and Wednesday night. See (http://www.gretnala.com/egov/apps/document/center.egov?view=item&id=465).

COURSE CONTENT: This introductory course will focus on mastery of three related subject in solar system astronomy. First, we will look at objects in the sky and motions of celestial objects as seen from the Earth; this is usually called naked-eye astronomy. Second, we will trace the growth of understanding of these motions through the history of astronomy; this is also the history of the beginnings of science and the gradual development of the scientific method. Third, we will look at the solar system itself, comprising the planets and their moons, asteroids, comets, meteors, and other cosmic debris. This material comprises the Chapters 1 – 13 plus S1 in the text.

STUDENT LEARNING OBJECTIVES: Overarching goals for the course are for the student to be able to

- Be able to explain the nature of the planets, dwarf planets, asteroids, comets, and other solar system objects.
- Be able to explain the reasons for the seasons, the phases of the moon, and the motions of the planets.
- Understand the nature of science and the scientific method as exemplified by the development of astronomy.
- Learn the nature of light and how telescopes work in astronomy.
- Understand the similarities and differences in the geology and atmospherics of planets.
- Understand the formation and evolution of the solar system and the planetary system.

READING THE TEXT: Students are expected to have read the chapter before the first lecture on that material. Science texts are not like novels or history books: each piece must be separately understood, and then integrated with the whole. The object is to understand the material; merely reading it is insufficient. The beauty and the power of science lies in the sense it makes of the world around us. Memorization will carry you a long way, but earning the highest grades in this course also requires understanding. To that end, a reading method such as the SQ3R (Survey, Question, Read, Recite, Review) or equivalent method of reading for understanding is recommended. The practice of underlining parts of the text has been shown to be an ineffective learning tool. The most effective tools are *self testing* (including flash cards) and *distributed learning* (i.e., studying as we go and avoiding cramming before the exams).

CLASS MEETINGS: Attendance at lectures is expected and required. The lectures generally parallel the text, but do not always follow it in details. Students are responsible for the material presented in class and as well as the assigned material in the text. Discussion among students is encouraged for the clicker questions.

CLICKERS: Concept questions will be asked throughout the class session, with students responses recorded by clickers for a grade. The clickers are by iClicker and are sold in the bookstore. Registration on the class moodle homepage is required. The purpose of the clicker questions are: to encourage *active* participation in class (minds-on, not just mindless note-taking); to check student understanding of the concepts presented in the text and in class; and to encourage attendance and check roll. Total points from the clickers will constitute 8% of the final grade.

MASTERINGASTRONOMY WEB QUIZZES: Quizzes for every chapter will be put on the MasteringAstronomy web site with due dates near the end of the lectures on that chapter. Late submissions lose 25% per day (calculated hourly) from the maximum grade. This website also provides some very useful learning tools, tutorials, self quizzes, and interactive exercises to assist student learning. Registration with a code number is required. The code is bundled with new copies of the text, but can be purchases separately from the publisher and is good for one year.

GRADING: The final course grade will be made up of hourly exams, the final exam, clicker and web quiz grades. The lowest grade on an hourly exam will be dropped; NO MAKEUPS will be given. If you miss an exam, that will be the grade that is dropped. The final will be COMPREHENSIVE, worth about twice an hourly exam, and cannot be dropped. Web-based chapter quizzes must be taken at the Mastering Astronomy web site.

Weights for the semester Grand Average are:

Hourly exams: 2 @ 22%	44%	See schedule below for *tentative* dates
Comprehensive final exam:	36%	see schedule attached, or UNO website
Clicker grade	8%	Daily questions
MasteringAstronomy quizzes	12%	due for each chapter
	100%	

COMMUNICATION: The preferred method of communicating simple issues is via email to cseab@uno.edu. For individual or group help with the material, I am generally available during my office hours, or at *any time by appointment*, or any time you catch me. I am always willing to help students and groups at any time, so ask. If I cannot meet with you because of my schedule, I will arrange another time when I can.

EMAIL PROTOCOL: Include "Physics 1005" in the subject line, and put your name (first *and* last) in the body. This is important! Otherwise I may not find your email or respond in a timely fashion.

ACADEMIC INTEGRITY is fundamental to the process of learning and evaluating academic performance. Academic dishonesty will not be tolerated. Academic dishonesty includes, but is not limited to, the following: cheating, plagiarism, tampering with academic records and examinations, falsifying identity, and being an accessory to acts of academic dishonesty. Refer to the Student Code of Conduct for further information. The Code is available online at http://www.studentaffairs.uno.edu.

DISABILITIES: It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities should contact the Office of Disability Services as well as their instructors to discuss their individual needs for accommodations. For more information, please go to http://www.ods.uno.edu.

FURTHER RESOURCES: The ultimate resource for astronomy is the sky itself. Go outside and look up!

HONORS SECTION 195: Students in the Honors Program may register in section 195 of the course. Honors students will have to write a 10 – 12 page term paper on any topic in solar system astronomy or do an acceptable astronomy project due at the end of the semester. The term paper or project will be weighted at 10% of the final grade, with the other categories reduced to 90% total. More details will be given in class. Failure to complete a satisfactory term paper drops the student by one letter grade. Registration in this section constitutes a commitment to complete the additional requirements for honors credit.

Fall 2015: Physics 1005 Introduction to Astronomy I: Solar System							
9:00 - 9:50 MWF SC 2120 Seab							
Week	**Class**	**Date**			**Chap**	**Topic**	**HW**
1	1	Aug	19	W	Ch 1	Our Place in the Universe	
	2		21	F			
2	3		24	M			Intro
	4		26	W	Ch 2	Discovering the Universe for Yourself	Ch01
	5		28	F			
3	6		30	M			
	7	Sep	2	W			Ch02
	8		4	F	Ch 3	The Science of Astronomy	
4			7	M	Labor Day Holiday		
	9		9	W			
	10		11	F			
5	11		14	M			Ch03
	12		16	W	Ch 4	Making Sense of the Universe	
	13		18	F			
6	14		21	M			Ch04
	15		23	W	review		
	16		25	F	**Exam 1**	**Ch 1 - 4**	
7	17		28	M	S1	Celestial Timekeeping and Navigation	
	18		30	W			
	19	Oct	2	F			Ch S1
8	20		5	M	Ch 5	Light and Matter: Reading Messages from the Cosmos	
	21		7	W			
	22		9	F			Ch05
9	23		12	M	Ch 6	Telescopes: Portals of Discovery	
	24		14	W			Ch06
			16	F	Fall Break		
10	25		19	M	Ch 7	Our Plantetary System	
	26		21	W			Ch07
	27		23	F	Ch 8	Formation of the Solar System	
11	28		26	M			Ch08
	29		28	W			
	30		30	F	**Exam 2**		
12	31	Nov	2	M	Ch 9	Planetary Geology: Earth and the Other Terrestrial Worlds	
	32		4	W			
	33		6	F			Ch09
13	34		9	M	Ch 10	Planetary Atmospheres: Earth and the Other Terrestrial Worlds	
	35		11	W			
	36		13	F			Ch10
14	37		16	M	Ch 11	Jovian Planet Systems	
	38		18	W			
	39		20	F			Ch11
15	40		23	M	Ch 12	Asteroids, Comets, and Dwarf Planets	
	41		25	W			Ch12
			27	F	Thanksgiving		
16	42		29	M	Ch 13	Other Planetary Systems	
	43	Dec	2	W	**Exam 3**		
	44		4	F	review		Ch13
			9	W	**7:30 - 9:30 am FINAL EXAM Comprehensive**		

UNO Syllabus Attachment Fall 2015

Important Dates*

Last day to adjust schedule w/out fee..... 08/18/2015
Semester Classes Begin 08/19/2015
Last day to adjust schedule w/fee,
or withdraw with 100% refund..... 08/25/2015
Last day to apply for December commencement..... 09/25/2015
Final day to drop a course or resign 10/14/2015
Mid-semester examinations.....10/05-10/09/2015
Final examinations 12/07-12/11/2015
Commencement..... 12/18/2015
**Note: check Registrar's website for Saturday and A/B sessions, and for items not listed here: http://www.registrar.uno.edu*

Fall Semester Holidays

Labor Day 09/07/2015
Mid-semester break.....10/15-10/16/2015
Thanksgiving.....11/26-11/27/2015

Withdrawal Policy – Undergraduate only

Students are responsible for initiating action to resign from the University (withdraw from all courses) or from a course on or before dates indicated in the current Important dates calendar. Students who fail to resign by the published final date for such action will be retained on the class rolls even though they may be absent for the remainder of the semester and be graded as if they were in attendance. Failure to attend classes does not constitute a resignation. Check the dates on the Registrar's website, http://www.registrar.uno.edu. Please consult The Bulletin for charges associated with dropping and adding courses.

Incomplete Policy – Undergraduate only

The grade of I means *incomplete* and is given for work of passing quality but which, because of circumstances beyond the student's control, is not complete. The issuance of the grade of I is at the discretion of the faculty member teaching the course. For all graduate and undergraduate students, a grade of I becomes a grade of F if it is not converted before the deadline for adding courses for credit (as printed in the Important Dates Calendar) of the next regular semester including summer semester.

Repeat Policy

When a student is permitted to repeat a course for credit, the last grade earned shall be the one which determines course acceptability for degree credit. A student who has earned a C or better in a course may not repeat that course unless, (1) the catalog description indicates that the course may be repeated for credit, or (2) the student's Dean gives prior approval for documented extenuating circumstances.

Graduate Policies

Graduate policies often vary from undergraduate policies. To view the applicable policies for graduate students, see the Graduate Student Handbook: http://www.uno.edu/grad/documents/GraduateStudentHandbook2014.pdf

Academic Dishonesty Policy

http://www.uno.edu/student-affairs-enrollment-management/documents/academic-dishonesty-policy-rev2014.pdf

Safety Awareness Facts and Education

Title IX makes it clear that violence and harassment based on sex and gender is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you can find the appropriate resources here: http://www.uno.edu/student-affairs-enrollment-management/

UNO Counseling Services and UNO Cares

UNO offers care and support for students in any type of distress. Counseling Services assist students in addressing mental health concerns through assessment, short-term counseling, and career testing and counseling. Find out more at http://www.uno.edu/counseling-services/. First-year students often have unique concerns, and UNO Cares is designed to address those students succeed. Contact UNO Cares through http://www.uno.edu/fye/uno-cares.aspx.

Emergency Procedures

Sign up for emergency notifications via text and/or email at E2Campus Notification: http://www.uno.edu/ehso/emergency-communications/index.aspx. All emergency and safety procedures are explained at the Emergency Health and Safety Office: http://www.uno.edu/ehso/.

Diversity at UNO

As the most diverse public university in the state, UNO maintains a Diversity Affairs division to support the university's efforts towards creating an environment of healthy respect, tolerance, and appreciation for the people from all walks of life, and the expression of intellectual point of view and personal lifestyle. The Office of Diversity Affairs promotes these values through a wide range of programming and activities. http://diversity.uno.edu/index.cfm

Learning and Support Services

Help is within reach in the form of learning support services, including tutoring in writing and math and other supplemental instruction. Visit the Learning Resource Center in LA 334, or learn more at http://www.uno.edu/lrc/.

Affirmative Action and Equal Opportunity

UNO is an equal opportunity employer. The Human Resource Management department has more information on UNO's compliance with federal and state regulations regarding EEOC in its Policies and Resources website: http://www.uno.edu/human-resource-management/policies.asp