

PHYSICS 1130 Introductory Astronomy
Fall Semester 2009, Instructor: Prof. Benchich (/ben-check/)
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Office Hours: Wednesdays, 9:30-11:00, or by appointment

TEXT AND REQUIRED MATERIAL:

- *Astronomy: A Beginner's Guide to the Universe*, 6th Edition, by Chaisson and McMillan, available at the bookstore. Take advantage of the free online resources that accompany a previous edition of the textbook: <http://cwx.prenhall.com/bookbind/pubbooks/chaisson4/>
- PRS Audience Feedback Transmitter (your clicker). New or used, available at the bookstore.

EVERY DAY BRING TO CLASS THE FOLLOWING:

- PRS Clicker, Paper, Pen/Pencil

GRADING:

In-class Reading Quiz and Clicker Questions (Each Day Equally Weighted - Drop 2 Lowest)	15%
Exam 1: Thursday, September 17 th	20%
Exam 2: Thursday, October 15 th	20%
Exam 3: Thursday, November 12 th	20%
Comprehensive Final Exam: Thursday, December 17 th , 8:00 am – 10:30 am	25%
<hr/> TOTAL	<hr/> 100%

- **THERE ARE NO MAKE UP EXAMS OR QUIZZES. NO EXCEPTIONS. PLAN ACCORDINGLY**
- Course grades are assigned using a 10-point grading scale: A = 90.0-100.0, B = 80.0-89.9, etc.
- **YOU ARE RESPONSIBLE FOR ALL MATERIAL COVERED IN CLASS AND IN ASSIGNED READING.**
- **CELL PHONES MUST BE TURNED OFF DURING CLASS.** NO TALKING OR TEXTING DURING CLASS.
- Students will be required to show their University ID upon turning in exams.
- You **MUST** do your own work on the reading quizzes, mid-semester exams, and the final exam. Failure to do so will be a violation of the Code of Academic Integrity. There will be consequences. See below:

All UNC Charlotte students have the responsibility to be familiar with and to observe the requirements of The UNC Charlotte Code of Student Academic Integrity (see the Catalog). This Code forbids cheating, fabrication or falsification of information, multiple submission of academic work, plagiarism, abuse of academic materials (such as Library books on reserve), and complicity in academic dishonesty (helping others to violate the Code). Any further specific requirements or permission regarding academic integrity in this course will be stated by the instructor, and are also binding on the students in this course. Students who violate the Code can be punished to the extent of being permanently expelled from UNC Charlotte and having this fact recorded on their official transcripts. The normal penalty is zero credit on the work involving dishonesty and further substantial reduction of the course grade. In almost all cases, the course grade is reduced to "F." If you do not have a copy of the Code, you can obtain one from the Dean of Students Office or access it online at <http://www.legal.uncc.edu/policies/ps-105.html>. Standards of academic integrity will be enforced in this course. Students are expected to report cases of academic dishonesty they become aware of to the course instructor who is responsible for dealing with them.

Academic honesty and integrity are essential to the existence and growth of an academic community. Without maintenance of high standards of honesty, members of the instructional faculty are defrauded, students are unfairly treated, and society itself is poorly served. Maintaining the academic standards of honesty and integrity is ultimately the formal responsibility of the instructional faculty; and this responsibility is shared by all members of the academic community.

UNC Charlotte strives to create an academic climate in which the dignity of all individuals is respected and maintained. Therefore, we celebrate diversity that includes, but is not limited to ability/disability, age, culture, ethnicity, gender, language, race, religion, sexual orientation, and socio-economic status.

PHYS 1130 - INTRODUCTORY ASTRONOMY Tentative Schedule

Part 1: *The sky, seasons, phases, eclipses, history of astronomy, how science works, light and telescopes*
- scientific notation, scale of the universe, Earth's rotation, time zones, the Celestial Sphere, seasons
- phases of the Moon, eclipses, history of astronomy: the Greeks, Copernicus, Tycho, Kepler
- history of astronomy: Galileo, Newton, tides, how science works; the nature of light, telescopes

Midterm Exam 1: Part 1

Part 2: *Earth and the Solar System*

- Solar System: introduction, formation, planets around other stars, Earth as a planet
- Venus, Mars, Earth's Moon, Mercury, satellites, asteroids
- Jupiter to Neptune, Pluto, Kuiper belt, Oort cloud, comets

Midterm Exam 2: Part 2

Part 3: *Physics of light, stars*

- our Sun, how astronomers use spectra to learn about stars
- Stars: distance, luminosity, mass, star formation, the HR diagram, energy generation, main sequence life
- Stars: life from main sequence to white dwarf, death — supernovae, neutron stars, black holes

Midterm Exam 3: Part 3

Part 4: *Galaxies, cosmology*

- Our Galaxy — the Milky Way, Galaxies: properties, clusters of galaxies, dark matter
- Galaxies: evolution, distances, expansion of Universe, active galaxies, supermassive black holes
- Cosmology: Big Bang, evolution of the Universe, fate of the Universe

Final Exam: Parts 1 – 4, with emphasis on Part 4

****Detailed reading assignments and schedule are on our class Blackboard page****

You are expected to read the assigned sections BEFORE coming to class, as we will have a reading quiz during each class meeting!

PRS Personal Response System (Your Clicker)

We will be using PRS RF (radio frequency) clickers.

Clickers will be used extensively during class, and clicker responses are graded. Each student in the course must have his or her own clicker, and each student must register his or her clicker in order to get course credit for using it. New or used clickers can be purchased from the bookstore. You must register your clicker online from an on-campus computer.

You must use an ON-CAMPUS computer to access the registration website. You will not be able to register using an off-campus computer. Please note that some dorms are not part of the University network – if you are having trouble registering, try it from one of the computers in Atkins Library.

To Register:

- Go to <http://physics.uncc.edu>, click on Student Resources, and click on Register Your Clicker.
- Follow the instructions on the page to register your clicker. Make sure you follow the link in Step 1 and submit your information in the form. Instructions are provided regarding locating your clicker ID number.
- You are in section 092 and your instructor is Prof. Benchich