

PHYS 1401: Astronomy
Course Syllabus for Fall 2008, TR 9:30-10:55 am

Instructor: Dr. Wayne Keith: 793-3874, keith.wayne@mcm.edu
Office Hours: S 110-C: MWF 10-11, and MTWR 2:30-5:30
Web: <http://www.mcm.edu/~keith.wayne>
Text: *Horizons: Exploring the Universe (10th)*, by M. Seeds
Note: *Foundations of Astronomy (9th)*, by M. Seeds may also be used
Required: scientific calculator, paper, pen/pencil

Course Description: This course is intended to introduce the student to observational astronomy. Specifically, we'll study telescopes, light, the night sky, stars, galaxies, and planets. Most of the topics studied in the class will be conceptual, but math will be used in the class. Although it is assumed that the student knows math through the high school algebra level, problems requiring more than knowledge of the basic operations (addition, subtraction, multiplication, and division) will be reviewed in class. This course requires concurrent enrollment in the astronomy lab.

Course Goals: Introduce students to the scientific method and describe how to use it to solve problems. Significantly increase factual knowledge about select topics in astronomy.

Grading: 10% Daily grades: Class participation, attendance, short quizzes (up to one per class session) and other in-class activities. Four lowest daily grades WILL BE DROPPED prior to computing overall grade.

10% Homework: Assignments will be made in class and posted online. Homework will be due at the beginning of class on the date indicated.

20% Laboratory: See separate lab syllabus for details.

45% exams (15% each): Three in-class exams.

15% Final exam: Comprehensive, but concentrating on the final quarter of the course.

Attendance/Make up policy: Attendance is required. No make-ups for in-class activities will be given for any reason, since four daily grades will be dropped. Make-up exams will be given for excused absences only at the discretion of the instructor. Contacting the instructor via email or phone prior to missing class for any reason is strongly encouraged, even if it is for a school sponsored event.

Classroom Rules: Students are expected to be present and on time for all class meetings. Excessive unexcused absences (more than 3 consecutive) may result in the student being dropped from the course. Ringing cell phones and other disruptions during class may result in a loss of daily grade points or other penalties. Late homework loses 5% per class period.

ADA Policy: If you have a documented disability that may impact your performance in this class and for which you may require accommodations, you must be registered with and provide documentation of your disability to the Disability Services Office, Old Main 102, 793-4880.

Final notes: Class discussion is strongly encouraged; please feel free to ask questions, during class or outside of class, about anything that is not clear. Properly preparing for class by reading the textbook and keeping up with the homework is the most important factor in doing well in this course. Students are encouraged to bring astronomy related current events to class for discussion (this will contribute to the participation portion of your daily grade).

PHYS 1401 Fall 2008 Course Schedule

All dates and topics are tentative and subject to change except **bold** dates.

Date	Lecture #	Tentative Topic	Laboratory
8/26	1	Introduction and Overview	1. Scale of Solar System
8/28	2	The Scale of the Cosmos	
9/2	3	The Sky	No Lab
9/4	4	Cycles of the Sky	
9/9	5	History of Astronomy	2. Celestial Sphere
9/11	6	Galileo, Kepler and Newton	
9/16	7	The Basics of Telescopes	3. Refraction & Reflection
9/18	8	Advanced Telescopes	
9/23		Test 1	4. Simple Lens
9/25	9	Starlight & Spectroscopy	
9/30	10	The Sun	5. Wavelength of Light
10/2	11	The Family of Stars	
10/7	12	Formation and Structure of Stars	6. CLEA – HR Diagram
10/9	13	The Deaths of Stars	
10/14	14	Neutron Stars and Black Holes	7. CLEA – Dying Stars
10/16		Test 2	
10/21	15	The Milky Way Galaxy	8. Intensity of Light
10/23	16	Galaxies	
10/28	17	Galaxies with Active Nuclei	9. CLEA – Hubble Redshift
10/30	18	Cosmology	
11/4	19	Origin of the Solar System	10. Telescope Observing (special time/place)
11/6	20	The Earth and Moon	
11/11	21	Mercury, Venus, and Mars	11. CLEA – Mercury Rotation
11/13		Test 3	
11/18	22	Jupiter and Saturn	12. CLEA – Astrometry
11/20	23	Uranus, Neptune, and Dwarf Planets	
11/25	24	Meteorites, Asteroids, and Comets	No Lab
11/27		Thanksgiving – No Class	
12/2	25	Life in the Universe	Makeup Week
12/4	26	Final Review	
12/9		Final Exam – (8 am to 10 am)	No Lab
12/11		Finals Week – No Class	