

**PHYS 1411: Astronomy I**  
**Course Syllabus for Spring 2007, MW 5:00-6:25 pm**

Instructor: Dr. Wayne Keith: 793-3874, [keith.wayne@mcm.edu](mailto:keith.wayne@mcm.edu)  
Office Hours: S 110-C: MWF 9-11, T 9-10:30, and R 2:30-5:30  
Web: <http://www.mcm.edu/~keith.wayne>  
Text: *Pathways to Astronomy*, by S. Schneider and T. Arny  
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. See instructor to request extra credit assignments, however, there is no guarantee any extra credit will be available. 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 absences (more than 6 unexcused) 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 (up to a maximum of 40%).

**ADA Policy:** Students who qualify for specific accommodations under the Americans with Disabilities Act (ADA) should notify the instructor as soon as possible. It is the responsibility of the student to provide the necessary documentation to the Special Populations Coordinator.

**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 notes and textbook will help you, especially with the in-class quizzes. Students are encouraged to bring physics related current events to class for discussion (this will contribute to the participation portion of your daily grade).

## PHYS 1411 Spring 2007 Course Schedule

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

<b>Date</b>	<b>Lecture #</b>	<b>Tentative Topic</b>	<b>Laboratory</b>
<b>1/17</b>		<b>No Class</b>	<b>No Lab</b>
1/22	1	Introduction and Overview	1. Scale of Sol. System
1/24	2	The Scale of the Cosmos	
1/29	3	The Sky	2. Celestial Sphere
1/31	4	History of Astronomy	
2/5	5	Galileo, Kepler and Newton	3. Stellar Magnitudes
<b>2/7</b>		<b>Test 1</b>	
2/12	6	The Basics of Telescopes	4. Refraction & Reflection
2/14	7	Advanced Telescopes	
2/19	8	Starlight	5. Simple Lens
2/21	9	Spectroscopy	
2/26	10	The Sun	6. Wavelength of Light
2/28	11	Solar Interior	
3/5	12	Characteristics of the Stars	7. Intensity of Light
<b>3/7</b>		<b>Test 2</b>	
<b>3/12</b>		<b>Spring break</b>	<b>No Lab</b>
<b>3/14</b>		<b>Spring break</b>	
3/19	13	Origin of the Solar System	8. Telescope Observing (special time/place)
3/21	14	Terrestrial Planets	
3/26	15	Giant Planets	9. Ages in the Universe
3/28	16	Major Moons	
4/2	17	Small bodies	<b>No Lab</b>
<b>4/4</b>		<b>Test 3</b>	
<b>4/9</b>		<b>Easter Holiday</b>	10. Extrasolar Planets
4/11	18	The Interstellar Medium	
4/16	19	The Formation of Stars	11. Eclipsing Binaries
4/18	20	Stellar Evolution	
4/23	21	The Deaths of Stars	12. Clusters & Black Holes
4/25	22	The Milky Way Galaxy	
4/30	23	Formation and Evolution of the Milky Way	Makeup Week
5/2	24	Properties of Galaxies	
<b>5/7</b>		<b>Finals Week – No Class</b>	<b>No Lab</b>
<b>5/9</b>		<b>Final Exam – (7 pm to 9 pm)</b>	