

## Physics 360 : Astrophysics – Planets section Spring 2005

This course is separated into 2 distinct sections with different instructors and grading policies. The first section will be from January 12 through February 25 and will cover planets and the solar system.

<b>Professor:</b>	Phone	Office	E-mail
Dr. Julie A. Rathbun	x2927	Duke 111	<a href="mailto:julie_rathbun@redlands.edu">julie_rathbun@redlands.edu</a>

**Class meetings:** MWF 11:00 AM – 12:20 Duke 113

**Office hours:** T Th 2:30-3:30 You are welcome and encouraged to meet with me at any time which is mutually agreeable, even if it is not during my official office hours. My class schedule (so you know when I'm busy) is posted on my web page.

**Required Text:** *Planetary Sciences* by dePater and Lissauer. We will only be using 4 chapters, available as a course packet costing \$40.

**Prerequisites:** Physics 233 or permission of instructor.

### Goals:

1. To learn about the nature of our solar system from a physics perspective.
2. To develop research skills and study an aspect of the solar system in depth.

**Exercises, Quizzes & Attendance:** Sometimes during class we will be working on group problems or exercises. These may not be noted in advance. Major quizzes (on the end of a chapter) will be noted in advance, but smaller quizzes to test that you are doing the reading may not be. You must attend class the day an exercise is done or a quiz is given to turn in the associated work. You will not be allowed to make up this aspect of the course. If you will be absent from class for a valid reason (such as university approved events), you must inform me in advance in order to have any opportunity to make up missed work. Quizzes will be given at the beginning of class and are closed book and closed notes. If you are late, you will receive a zero.

**Participation:** You MUST participate in class. This shows me that you are doing the reading and working on the assignments (not just at the last minute). Sometimes you may be asked to work out an example on the board.

**Exams:** The exam for this section will take place Friday, February 25<sup>th</sup> during class.. This exam is cumulative for this section of the class. It will be closed book and will contain both conceptual and quantitative problems. You may use a calculator for basic functions (addition, subtraction, multiplication, division, powers, exponentials, logarithms). You are on your honor not to use a calculator for advanced functions (including integration, differentiation, solving equations, unit conversions) or to store formulas or notes of any type in its memory. Calculators may not be shared.

**Homework:** Physics is not a spectator sport! You will not learn to solve problems without regular practice, so homework is an essential part of this course. All assignments are due at 11 am unless otherwise noted. All assignments turned in after this time will receive a **late penalty of 10% per day**. If you wait until the night before to begin an assignment, you will not finish it.

You are encouraged to work together with your classmates on the homework provided each person comes to an understanding of the questions and problems and submits a separate set of solutions. Copying another student's homework or allowing your homework to be copied is cheating and neither will be taken lightly. For the first offense, neither student's homework will get credit and a letter will be placed in both student files.

**Class Web site:**

[http://newton.uor.edu/facultyfolder/julie\\_rathbun/astrophys/index.html](http://newton.uor.edu/facultyfolder/julie_rathbun/astrophys/index.html)

This syllabus is subject to change. The current, up-to-date version will be located on the class web site.

**Grading:**

Grades for the first half of the class will be based on the following:

Homework	20%
Quizzes and exercises	10%
Exam	20%
Participation	5%
Paper	45%
Paper summary	7.5%
Annotated Bibliography	7.5%
Draft	5%
Presentation	10%
Final paper	15%

**Tentative Schedule:**

Dates	Monday	Tuesday	Wednesday	Friday
1/12-1/14			Intro Ch 1	HW on Ch 1 due Pick an article
1/17-1/21	Ch 3: Conduction	Article summary due	Ch 3: Radiation	Ch 3: heating & convection
1/24-1/28	Discuss article and paper topic	Ch 3 HW due 1pm	Ch 5: Minerals & Rocks	Quiz – Ch 1&3 Gravity, Tecton.
1/31-2/4	Volcanism, Magma & wind		Cratering	Ch 5 Annotated Bibliography due
2/7-2/11	Ch 6: Isostasy, gravity	Ch 5 HW due 1pm	Heat sources	Quiz – Ch 5 Seismic & magn.
2/14-2/18	Paper draft due Other bodies		Drafts returned HW Ch 6 due	Presentations
2/21-2/25	Presentations		Review	Exam, papers due