

PTYS/ASTR 206  
**The Golden Age of Planetary Exploration**  
Syllabus – Spring 2009

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**Times and locations:**

- Two lectures per week on Tuesday and Thursday from 12:30-1:45pm.
- First lecture on Thursday, January 15<sup>th</sup>.
- Lectures will be held in room 308 of the Kuiper Space Sciences building.

I'll usually be available for questions and discussion, from the end of each lecture at 1:45pm, until 4pm on both Tuesdays and Thursdays. If you need help and cannot make these times then I'm flexible, please email and we'll make another arrangement.

**Course Website:**

Lectures, homework assignments, solutions and general information on the course will be posted on a class website at:

[http://www.lpl.arizona.edu/~shane/PTY\\_206](http://www.lpl.arizona.edu/~shane/PTY_206)

**Teaching Assistants**

Office hours will be announced in class.

**Kevin Jones**

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**What students should know coming into this course:**

This is a Tier 2 NATS general-education course, the formal prerequisite is the successful completion of two Tier 1 NATS classes. Planetary science is by definition a broad subject and draws on physics, chemistry, geology, astronomy, biology etc... Background knowledge (i.e. other courses) in any of these areas will help, but is not essential.

You can expect the approach to solving problems will be quantitative – but the focus will always be on learning the concepts rather than practicing your math skills. You will need some math skills such as basic algebra and familiarity with trig functions, exponents and logarithms.

**Please speak to the instructor (early in the course!) if you have any questions/concerns.**

### **What students should know coming out of this course:**

The goals of this course are to give you an understanding of processes operating on planetary bodies, such as the actions of wind and waves here on the Earth, and how they have shaped the history of solar system bodies. We'll discuss how planets compare to each other and why some processes dominate on one planet, but might be completely absent on others.

We'll also look at, and discuss, many datasets that describe objects in our solar system acquired by spacecraft, telescopes and astronauts. By the end of the course you'll be familiar with how we investigate these bodies and what data our conclusions are based on.

### **Textbooks:**

*Universe: The Solar System, 3rd ed., R.A. Freedman and W.J. Kaufmann III.*

Lectures, homework, exam questions, and other class assignments, will be related to the material in this book. Textbooks fall out of date quickly in planetary science so we'll almost certainly discuss additional topics not in this text.

### **Course credit:**

Grades will come from a mixture of in-class activities, homeworks, mid-terms and a final exam.

#### In-Class Activities

These will take the form of quizzes or other exercises to be done in a fifteen minute interval during class. There will be six in total; their timing will not be announced in advance. We'll take your best five scores of these six when figuring your grade. These exercises will amount to 20% of your final grade, so attendance is well-worthwhile for this reason alone. There will be no make-up activities unless you can provide an official Dean's excuse for your absence.

#### Homeworks

There will be 6 homeworks each worth 5% of the total grade. You'll have one week to complete each one. See below for collaboration policies.

#### Mid-term exams

There will be two mid-term exams during class periods, each worth 12.5% of the final grade. These will be multiple-choice exams.

#### Final exam

A final exam will be held the week following the end of class. One third of the questions on this exam will be directly recycled from homeworks and the mid-terms. This is to encourage you to review the solutions to these exercises! You can basically get these points 'for free' by just reading and understanding the solutions to these earlier tests. The final exam is worth 25% of your final grade.

### **Grading policy:**

Final grades are determined from:

Homework assignments	30%
In-class activities	20%
Mid-term exams	25%
Final exam	25%

Grades will be assigned according to the following scale.

90-100%	A
75-89%	B
60-74%	C
50-59%	D
0-49%	E

Grades will not be rescaled to ensure that a statistical distribution is met unless the average grade differs greatly from a C. Anyone with a final score within a fraction of a percent of a grade boundary will get the higher of the two grades.

### **General Policies:**

Attendance is required from all students at all lectures. Coming to the lectures will ensure that you get a much higher grade on the assignments than otherwise. I'll post all the lecture materials on the class website, but they won't always make sense without the accompanying explanation and your notes. Absences from class during sessions with in-class activities result in zero marks for that activity. There are no make-up activities, unless you can provide a Dean's note.

While in class, students are expected to conduct themselves in a considerate manner. Late arrivals and early departures from class are disruptive and inconsiderate to your colleagues. Students must disable cell phones for the duration of the class and refrain from answering calls (take any emergency calls outside). Students that persistently disrupt the class may be removed through the administrative drop procedure.

Students are encouraged to discuss approaches to solving homework problems with each other; however, all work submitted must be the student's own. **Copying of homework from other students (or from the internet) will result in zero credit for that homework. A second occurrence of plagiarism from a student will result in zero credit for ALL homeworks and a report to the university that appears on your permanent record.** Please review <http://dos.web.arizona.edu/uapolicies/cai1.html> for details on UA's academic integrity policy.

The classroom is a communal resource that should be treated with care and respect. No food or drink (except water) is permitted in this room. Please clear up your seating area after use and don't leave any debris that others will need to clean up.

### **Course outline:**

The planned course outline is posted on the class website.