

# Astronomy 104

## Our Exploration of the Solar System

### ASSESSMENT PHILOSOPHY AND GOALS (Mathieu)

Assessments are not just a means of grading. Indeed, they are more important as a means 1) for you to see what I think is important and 2) for me to find out whether you are learning the material so that I can adjust my teaching. For both of these reasons I use many assessments throughout the semester, rather than just having a few high-stakes exams. The most frequent will be ...

**CONCEPTTESTS** My lectures will be interspersed with conceptual questions, called ConcepTests, designed to explore common difficulties in understanding the material. You will be given one to two minutes to think about the question and formulate your own answers; I will then ask you to show your answers with color-coded cards. If you evidently understand the concept, we will move on. If not, I will ask you to spend two to three minutes discussing your answers in groups of three to four, working toward consensus on the correct answer. This process allows you to think through the arguments being developed. Again, I will ask you to show your answers, and judge whether to move on or address the concept further myself.

Extensive research has shown that the active engaged learning fostered by ConcepTests leads to significant gains in conceptual understanding compared to classes having traditional lectures. Plus it's a lot more fun for you and me!

ConceptTests are not graded, but many will show up on the exams.

### ASSIGNMENTS

**READING:** The weekly reading assignments are given on the syllabus. You are strongly encouraged to read the material before Monday of each week. Occasional quizzes on the reading will be given in Monday lectures for extra credit.

**OBSERVING THE SKY:** There will be three labs during the semester that will require you to observe the night sky. These observations can be done from anywhere and largely at your convenience, weather permitting.

**HOMEWORK:** The role of homework is the development of skills in scientific reasoning skills and applying mathematics to solve problems. Homeworks will be assigned most weeks. They will be distributed in the Wednesday lecture and will be due in lecture one week later. ***Late homeworks will not be accepted.*** Your lowest homework grade will be dropped, including any that you don't hand in. This procedure will compensate for illness or unavoidable problems.

**PORTFOLIO:** Too often exams reveal what you don't know, rather than what you know. Student portfolios are a collection of evidence, prepared by the student, to demonstrate mastery, comprehension, application, and synthesis of a given set of concepts. Portfolios transfer much of the responsibility of demonstrating learning from the professor to the student.

More information will be provided later, but you will be asked to create a portfolio that demonstrates a broad conceptualization of your place in the Solar System. The portfolio will include roughly 5 documents for this purpose, with examples being 1) an analysis of motions in every-day life, 2) stories of the sky from your culture, 3) thermodynamics in every-day life, 4) analysis of a movie clip or reading, 5) application of the law of gravity, or 6) observations of a comet.

### POLICIES ON WORKING TOGETHER

1. Working on assignments in groups is fine and even encouraged. This course is not graded on a curve, and so there is no reason not to help each other learn.
2. Before working with others, give yourself adequate opportunity to work on your own first. Exercising your mind, and finding out what you don't know, is a crucial part of your learning! The same is true with respect to consulting your instructors; first make a genuine effort to solve a challenge by yourself.
3. Even if you have worked with others, ***you must write up your assignments independently.*** This is the only way to assure yourself that ***you*** understand the material. This also insures fairness in grading – any hint of plagiarism will result in a 0 score, and possibly more serious consequences.

### GUIDELINES FOR FORMAT OF SUBMITTED WORK

1. Hand in your work on 8.5 x 11" sheets, stapled or otherwise bound together.
2. At the top right corner, put your name, the assignment (e.g., "HW 8"), and your discussion section date and time.
3. Your work should be neat and orderly; difficult-to-read work will not receive credit.
4. Formulas and numbers alone won't do; a short written explanation should accompany a solution to explain your reasoning.

**If you miss any assignment or handout, you can pick it up from the wall rack on the 5th floor of Sterling Hall.**

**EXAMS:** There will be two mid-course exams as well as a comprehensive final. These will be primarily multiple choice questions.

**GRADES**

Grading is not done on a curve - every student can achieve an A. Your final grade will be derived as follows:

<b>BASIS:</b>	Homeworks	80 points
	Observing Exercises	50
	Portfolio	70
	6-Week Exam	50
	12-Week Exam	50
	Final	100

<b>SCALE:</b>	360 +	A
	350 – 359	AB
	300 – 349	B
	290 – 299	BC
	240 – 289	C
	200 – 239	D
	< 200	F

The professor and TA retain a half-grade discretion to reward positive performance (contribution to class, extra effort, leadership, etc.) and to respond to inadequate performance (poor or late attendance, lack of effort, etc.).

This table will assist you in keeping track of your grade status:

<b>Assessment</b>		<b>Points</b>
<b>Homework</b>	HW 1 (10 pts)	
	HW 2	
	HW 3	
	HW 4	
	HW 5	
	HW 6	
	HW 7	
	HW 8	
	HW 9	
	Total (drop lowest)	
<b>Observing</b>	Obs 1 (15 pts)	
	Obs 2 (15 pts)	
	Obs 3 (20 pts)	
<b>Portfolio</b>	50 pts	
<b>6-week Exam</b>	50 pts	
<b>12-week Exam</b>	50 pts	
<b>Final</b>	100 pts	
<b>Extra Credit</b>		
<b>Total</b>		