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### ASTR 134.01: Elementary Astronomy Laboratory I

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*The University Of Montana*

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Astronomy 134  
ELEMENTARY ASTRONOMY LABORATORY II  
Fall 2001

INSTRUCTOR: Bryce Jacobson  
SC 226 (inside SC 225)  
E-MAIL: bryce\_jacobson@hotmail.com  
PHONE: 243-2096 (Phys./Astr. dept. office: 243-2073)  
OFFICE HOURS: to be announced  
Required supplies: Faculty pack (available at the UC bookstore), planisphere,  
lunar map, calculator.

### COURSE CONTENT

The purpose of this course is to give you some laboratory and observing experience in basic astronomy and solar system astronomy. Past students of this course have found the more in-depth, practical experience of the lab often helps elucidate material covered in the Astronomy 131 lecture. For those of you interested in stargazing, this course will introduce you to what's up in the night sky, how to use star maps and astronomical software to learn the constellations and find deep-sky objects, and the basic use and design of telescopes, in case you ever decide to purchase one of your own.

Throughout the course you will be expected to:

- 1) Read through the experiments (or at least the introductory material in them) before coming to class. Make sure you understand the material from your class notes or text which relates to the subject of the lab.
- 2) Ask questions. Be more concerned with questions about understanding the larger concept or procedure rather than questions about how to do one specific step of the lab. This will also keep you out of trouble on #3, below!
- 3) Do your own work. Even when you collaborate with other people in the lab, your lab write-up must reflect what you understand. I reserve the right to assign zero credit to students I suspect of copying or not contributing to the work of the group. The zero score may be replaced with a full credit grade by scheduling an oral interview in my office. If you can convince me you understand the material, I will grade you on the work you turned in.

### LAB MAKE-UP

Only ONE lab make-up will be allowed per student. The observing and presentation labs are required and can NOT be made up. Any other lab that you miss, or receive a low score on, can be replaced by the Phases of the Moon lab at the end of your faculty pack. No other make-ups will be allowed except for exceptional, legitimate emergencies for which written documentation can be provided. Please note that the Phases of the Moon lab is an observational lab that must be done over a period of several days and requires several nights of clear weather. If you anticipate that you might need a make-up lab, this lab is most easily done early in the semester!

### GRADING

The course consists of 13 labs. Each score will be normalized to 10 points, for a total of 130 points for the course. Although I do curve the grades from the combined lab sessions at the end of the semester, the scale usually ends up being very close to the traditional grading scale (90-100% A, 80-89% B, etc.). Except for the one lab make-up, missing a lab will result in a zero for that particular exercise. It is important to realize that missing even one lab can have the effect of lowering your grade one letter.

## Astronomy 134 **LAB SCHEDULE**

<u>date:</u>	<u>experiment:</u>	<u>location:</u>	<u>different time?</u>
Sept. 5,6,7,10	Introduction to the Course	SC 13	
Sept. 12,13,14,17	Star Maps	SC 110	
Sept. 16,17,18	Observing the Night Sky ***(backup dates: Sept. 19,20,23,24)***	Skaggs Rooftop	9:00 p.m.-midnight
Sept. 19,20,21,24	Astronomical Coordinate Systems	SC 13	
Sept. 26,27,28, Oct. 1	Eclipses and Orbits	SC 110	
Oct. 3,4,5,8	The Revolution of the Moons of Jupiter	SC 11	
Oct. 10,11,12,15	Experiments with Light	SC 13	
Oct. 17,18,19,22	Lenses and Image Formation/Resolving Power	SC 13	
Oct. 24,25,26,29	Comparative Planetology	SC 110	
Oct. 28,29,30	Lunar Observing ***(backup dates: Oct. 31, Nov. 1)***	Skaggs Rooftop	7:00 p.m.-10:00 p.m.
Oct. 31, Nov. 1,2,5	The Orbit of Mercury	SC 13	
Nov. 7,8,9,19	Lunar Surface Features	SC 13	
Nov. 21-23	THANKSGIVING HOLIDAY		
Nov. 26,28,29,30	The Surface of Mars	SC 13	
Dec. 3,5,6,7	prepare proposals- no lab		
Dec. 10,12,13,14	Planetary Science Proposals	SC 13	

### Please note:

Classes meet in different locations, but most meet at the regularly scheduled class time. However, the two observing labs will meet on different days and times! For these two labs, sign-up sheets will be posted on the Astronomy bulletin board in front of the Physics/Astronomy Dept. office one week before the first day of that lab. Sign-ups are first come, first served. Sign-up early for the best choice of times. Please sign-up for one section only!! The observing labs will meet for only one hour, so please be on time. If you think you might like extra time to look around, or learn how to use the telescopes, please sign up for the last lab of the evening.

If your section is cancelled due to weather, sign-up again as soon as possible for one of the make-up dates. (Sign-up sheets for the make-up dates will be posted the morning after any of the labs are cancelled due to weather.) For all nighttime observing labs, a message will be posted on my answering machine (243-2096) ONE HOUR before the start of that lab updating you on sky conditions and whether or not the lab will be held. Do not call more than an hour before the start of your lab as weather can change rapidly and I will not necessarily make a decision prior to that.