# ASTRONOMY 5 – SYLLABUS – Fall 2013

Ticket No. 3046: Corequisite: Astronomy 1


INSTRUCTOR: Richard Rains
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OFFICE HOURS: Mon Tu Th: 1:00 – 3:00 p.m
Office: CMS 241

Lab Book (required): "Astronomy 5 Lab Exercises" Bookstore: $5.00
Star Finder Chart (required): Bookstore: $2.75

COURSE DESCRIPTION: This course involves familiarization with astronomical instruments, observation techniques, motions of the sky, the celestial sphere, star charts, constellations, lunar and planetary orbits and surfaces, stellar spectra, and classification of galaxies.

STUDENT LEARNING OUTCOMES

1. Set up, operate, and maintain an astronomical telescope and use it to identify features of selected astronomical bodies, as evidenced in lab reports, quizzes and final exam;

2. Analyze and obtain data from astronomical charts and images, as demonstrated in lab reports**,** quizzes and final exam;

3. Use star charts to identify constellations and stars, and become familiar with the night sky, as demonstrated during evening viewing sessions and in written lab reports**,** quizzes and final exam.

GRADING: The final course grade will depend on the following:

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| Lab Reports: | 40% of final course grade |
| Weekly Quizzes: | 30% of final course grade |
| Final Exam: | 30% of final course grade |

FINAL EXAM: Tuesday, Dec. 10, 8:00 p.m. to 10:00 p.m.

The final exam is an open-lab-report exam, so good reports will greatly aid in taking the final.

WEEKLY QUIZZES: Each week, the session will begin with a brief, ten-minute quiz about the activity of the previous week. This quiz will be given at 6:50 p.m.. Anyone arriving after 7:05 p.m. will not be allowed to take the quiz. There will be no make-ups. However, at the end of the semester the two lowest quiz grades will be dropped.

LAB REPORTS

Each lab report is due one week after the activity is performed. Late lab reports will be reduced in grade by 10% each week they are late.

Lab reports should consist of the following, in this order:

Title Page: Include your name in the upper right, title of activity at center, followed by date the activity was performed; lab partners' names at lower right. The title should be descriptive of the activity performed. For Example, use "The Planet Venus" instead of "Lab No. 3".

Data Page: Include all sketches and measurements made during the activity. They should be initialed by the instructor the night of the activity before you leave. Lab data must be recorded in the pre-printed data sheets provided in the Lab Handout Booklet available in the Bookstore. Any student not using the pre-printed sheets by the third week of the semester will lose 10% on the lab report grade.

Analysis: In a few paragraphs, discuss everything you did, why you did it, and what the result was. Discuss each sketch (when there are sketches), describing what you saw in some detail. Emphasize your visual impressions; colors, shadows, shapes, positions, etc. What did you learn from each activity? The analysis must be printed out, double-spaced, with font size 11, 12, or 13.

Missed labs cannot be made-up and will be recorded as zero. However, the single lowest lab report grade will be dropped at the end of the semester.

If a student misses a lab activity, he/she is still responsible for questions about that activity on the final examination.

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| FIELD TRIPS: | Sept 24: | Templin Highway – Star Clusters |
| | Oct. 29: | Templin Highway – Galaxies and Nebulae |
| | Nov 19: | Griffith Observatory |

THINGS YOU WILL NEED TO BRING TO CLASS EACH WEEK:

- sketching pencils and paper
- star finder
- WARM CLOTHING!!

CELL PHONE POLICY: No cell phone activity of any kind is allowed during class time, either in the classroom or outside during viewing sessions. This includes text messaging. (The Only Exception: astronomy-related apps.)
ETHICS POLICY: Any student found to be cheating on any quiz or test will receive an immediate zero on that activity.

PLAGIARISM: Lab reports must be written by the individual student. Any material which is word-for-word the same as another source must be placed in quotes with the source citation. Any copied segments not in quotes will be considered as plagiarism. The grade for such a lab report will be zero.

LATE ARRIVAL POLICY: Each session will begin with a lecture preparation. Anyone who arrives late enough to miss most of the lecture prep will receive a maximum grade of only 50% for the lab report on that activity.

DATES listed on this syllabus may change. Each student is responsible for current class announcements, whether he/she is present in class or not.

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| Last Day to drop the class without a "W": | Sept. 8 |
| Last Day to drop the class with a "W": | Nov. 17 |

NOTE: It is the student's responsibility to drop the class. After the final census date, the instructor is not responsible for excluding students who have become inactive.

You can get help from Learning Center Resources:

Here's the facebook link:

http://www.facebook.com/lamcssc?v=info&ref=ts#!/group.php?gid=156772824338146

*Tentative* Schedule of Activities

| Field Trip | Date | Moon Phase | Activity |
|---|---|---|---|
| | Aug 27: | Wan Gibb | Lab intro, Constellation recognition, use of quadrant, star colors by naked eye. |
| | Sept 3: | Newish | telescope usage, Collimation, star colors by scope, |
| | Sept 10: | Wax Cres | "Night Sky" exercises , easy binaries |
| | Sept 17: | Wax Gibb | crater sketch exercise, Moon observation, star cluster prep |
| FT I | Sept 24: | Wan Gibb | Field Trip I – star clusters |
| FT1 B.U. | Oct 1: | Newish | H-R diagram - binaries challenging |
| | Oct 8: | Thin Cres | Crescent Moon obs. - diffraction |
| | Oct 15 | Wax Gibb | telescope optics |
| | Oct 22: | Wan Gibb | Kepler's Laws/ retrograde |
| FT 2 | Oct 29: | Wan Cres | Field Trip II – galaxies and nebulae |
| FT2 B.U | Nov 5: | V.Thin Cres | Field of View – spectra - Lunar topography |
| | Nov 12: | Wax Gibb | crater comparison – parallax |
| FT3-Griff | Nov 19: | Fullish | Field Trip III – Griffith Observatory |
| | Nov 26: | Wan Cres | Mercury- Jupiter |
| | Dec 3: | New | Mars topography |
| | Dec 10: | Final Exam | |

Others:

Geometrical Optics

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