029:050:00A/B – Stars, Galaxies and the Universe
The University of Iowa, Dept. of Physics and Astronomy
Spring 2012, MWF 12:30PM – 1:20PM LR1 VAN

General Information

Instructor: Prof. William M. Peterson
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Phone: 319-335-3506
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Office hours: Tuesday, Wednesday, Thursday 3:00PM – 4:00PM, or by appointment
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Prerequisites

None

Course Description:

This introductory course covers stellar astronomy, physical properties of stars, stellar evolution and structure, interstellar matter, galaxies and galactic evolution, dark matter, relativity, and cosmology. The 00B section includes lab work, which takes place in a highly innovative lab utilizing an automated telescope at a remote observatory. Further analysis is carried out with a dedicated computer network. Students examine and investigate their own astronomical observations. The three lectures each week are given by the professor, while lab and tutorial work are directed by a TA. This course fulfills a GER:Natural Sciences. This course is closed to Physics and Astronomy majors.

Course Goals:

A. Develop a general understanding of astronomy and the sky observation.
B. Understand stellar structure and how our Sun produces energy.
C. Develop an understanding of the general properties of stars.
D. Develop an understanding of stellar evolution and how stars are born, how they live, and what happens when they die.
E. Develop an understanding of the general properties of our galaxy.
F. Learn about large scale structure of the Universe and galaxy evolution.
G. Find out if you believe in Dark Matter.
H. Learn about the beginnings of the Universe.

Books and Supplies:

The textbook for this course is *Investigating Astronomy*, by Slater and Freedman, published by W.H. Freeman and Company. This is available at the University Book Store and Iowa Book. The Personal Response System (PRS) known as the TurningPoint ResponseCard, or clicker, will also be required and is available at the University Book Store and Iowa Book as well. The PRS device must be registered at http://diy.its.uiowa.edu/clicker to work in the classroom and receive credit for responses.

Grading:

Clicker Questions: You will use your PRS device/clicker to respond to questions that are asked randomly during class on a daily basis. You will get credit just for answering questions and more credit for getting them correct. Attending class and remembering to bring your clicker are thus very important for obtaining these points.

Homework: You will be assigned homework that is completed and turned in via the ICON site for this course. Homework will be assigned each week and will be due Fridays at 3pm.

Exams: There will be three exams given in LR1 during regular lecture time on **September 21, October 26, and November 30.**

Final Exam: The final exam during the week of May 7-11. The precise day and time of the final exam will be announced later in the semester.

The score for the lecture course will be determined by adding the fraction of total possible points in each category using the following weights:

15% - Clicker responses. Six class sessions will be dropped from your clicker score to allow for absences/malfunctions.
20% - Homework
40% - Three in-class hour-long exams. The lowest of these scores will be dropped to allow for unavoidable illness/absence.
25% - Final Exam (9:45am, December 13)

Those enrolled in the lab course (section 00B) will receive a course grade that depends 75% on the above items, and 25% on the final score in the lab course. Students registered for 029:050:00B must attend the assigned lab section and receive a passing grade for the lab in order to pass the course.

The final grades will be curved so that the grade distribution approximates the following recommendation by CLAS:

A	**B**	**C**	**D**	**F**	**Average**
15%	34%	40%	8%	3%	2.50

Plus and minus grades will be assigned. The A+ grade will be awarded only in extraordinary situations.

General Policies:

Students are expected to attend every class and be a contributor to discussion. Attendance and participation are critical to mastering the material and will also create a livelier classroom experience. Show up on time for class and expect to stay for the entire session.

The classroom conduct of students should encourage a healthy learning atmosphere including respect for the instructor and other students. Common courtesy should be

shown be everyone. Please turn off your cell phones before class begins. Please do not text during class. Please do not engage in materials that are not class related such as reading the newspaper or listening to music. Please do not engage in any form of disruptive activity. Inappropriate behavior may result in a request for that student to leave the class. Know your rights and responsibilities as outlined in the University of Iowa Student Handbook: http://www.clas.uiowa.edu/students/academic_handbook/

Working with others is encouraged in this class. However, anything that you turn in must be your own independent work. At a minimum, cheating or plagiarism will result in a 0 for that assignment and may lead to a failing grade in the course. Please see the Student Handbook for University policies and procedures.

If you need help understanding the material in the class then please attend office hours. In addition, tutoring is available to you. Please contact the University Tutor Referral Service: http://imu.uiowa.edu/cic/tutor_referral_service/index.php
Special astronomy tutoring is also available free of charge:
http://www.physics.uiowa.edu/academics/astron_tutorial_sched.html
http://www.physics.uiowa.edu/academics/physics_tutorial_sched.html
The instructor reserves the right to modify the syllabus and calendar for this class.

Additional UI and CLAS Policies and Procedures

- *Administrative Home* - The College of Liberal Arts and Sciences is the administrative home of this course and governs matters such as the add/drop deadlines, the second-grade-only option, and other related issues. Different colleges may have different policies. Questions may be addressed to 120 Schaeffer Hall, or see the CLAS Student Academic Handbook. www.clas.uiowa.edu/students/academic_handbook/index.shtml
- *Electronic Communication* - University policy specifies that students are responsible for all official correspondences sent to their University of Iowa e-mail address (@uiowa.edu). Faculty and students should use this account for correspondences. (Operations Manual, III.15.2. Scroll down to k.11.)
- *Accommodations for Disabilities* - A student seeking academic accommodations should first register with Student Disability Services and then meet privately with the course instructor to make particular arrangements. See www.uiowa.edu/~sds/ for more information.
- *Academic Honesty* - The College of Liberal Arts and Sciences expects all students to do their own work, as stated in the CLAS Code of Academic Honesty. Instructors fail any assignment that shows evidence of plagiarism or other forms of cheating, also reporting the student's name to the College. A student reported to the College for cheating is placed on disciplinary probation; a student reported twice is suspended or expelled. www.clas.uiowa.edu/students/academic_handbook/ix.shtm
- *CLAS Final Examination Policies* - Final exams may be offered only during finals week. No exams of any kind are allowed during the last week of classes. Students should not ask their instructor to reschedule a final exam since the College does not permit rescheduling of a final exam once the semester has begun. Questions should be addressed to the Associate Dean for

Undergraduate Programs and Curriculum.

- *Making a Suggestion or a Complaint* - Students with a suggestion or complaint should first visit the instructor, then the course supervisor, and then the departmental DEO. Complaints must be made within six months of the incident. See the CLAS Student Academic Handbook. www.clas.uiowa.edu/students/academic_handbook/ix.shtml#5
- *Understanding Sexual Harassment* - Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. All members of the UI community have a responsibility to uphold this mission and to contribute to a safe environment that enhances learning. Incidents of sexual harassment should be reported immediately. See the UI Comprehensive Guide on Sexual Harassment for assistance, definitions, and the full University policy. www.sexualharassment.uiowa.edu
- *Reacting Safely to Severe Weather* - In severe weather, class members should seek appropriate shelter immediately, leaving the classroom if necessary. The class will continue if possible when the event is over. For more information on Hawk Alert and the siren warning system, visit the Public Safety web site. http://police.uiowa.edu/