Astronomy 162 – FALL 2009

Professor Bill Blass

e-mail: wblass@utk.edu or blass.w@gmail.com
http://soco.phys.utk.edu
Office: M104 Nielsen Physics
Office phone: 865-974-7846
Office hours: by appointment or drop in M&W

Course meets in 415 Nielsen Physics: MWF 9:05 – 9:55, see timetable for lab times and locations

FIRST ASSIGNMENT, DUE BY MONDAY, AUGUST 24, 2009.
Send me an e-mail telling me a little about yourself including major, year (Fr, So, Jr, Sr), why you are taking astronomy (interest, requirement, etc.) Also tell me if you have taken Astronomy 161 or 151 or have a background in astronomy as in hobby, etc. Include your name, preferred e-mail address, and anything more you wish to tell me. In subject line include “a162-initial e-mail” and your name.


Course Content Overview
Survey Chapters 1-5 & a selection of topics from Chapters 16 to 28. The Cosmos and our place in it, the motivation and activity of early astronomers, the language of astronomical observation, Stars and Stellar Evolution, Galaxies and Cosmology.

Course Structure
- Active student participation: internet project centered - WEB Projects
- Activities augmented by audio-visual presentations and talking head lectures
- Chapter quizzes – based on “Learning goals” for each chapter. Schedule to be announced.
- There is NO midterm exam, there IS a comprehensive final (however, exemptions are possible – see below!)
- Lab course – you must complete the lab in order to receive a grade in the course.
- Caveat! This course structure is experimental. Your feedback is sincerely solicited.

TIPS
- Look at the Learning Goals at the front of each chapter. They are great guides.
- The quiz questions will have a habit of looking a lot like the questions based on learning goals at the end of each chapter.

HEALTH PROBLEMS
There is no reason to put your well-being or that of the class at risk during the flu season (or for that matter – in any season), so if you are sick, stay home, rest and heal yourself. I do not normally give make up exams but for documented viral infections, see me when you recover and we’ll do something positive.
**Rules and Administrative Details**

- *Attendance is expected on a regular basis,* if you do not intend to attend, please change sections and save yourself a plethora of problems.
- *As a general rule, no make-up quizzes are given. However, see extra credit observing below.*
- *When attendance comes close to the 50% mark, I have been known to, and will, give a pop quiz.*
- *In Fall 2003, et seq. You must have a UT e-mail address per OIT. (Memo from Lois Idol, HYPERLINK "mailto:lidol@utk.edu" lidol@utk.edu dated 08.19.03).*
- *E-mail: you must be able to send and receive e-mail on a regular basis for access to announcements and course assistance.*
  - You must be able to access the www (world wide web) for access to course information and to carry out assigned projects.
  - WP must be in the form of a paper printout with each page containing 2-6 Powerpoints SLIDES OR IMAGES.
  - your last name and wp number as, for example, A162-Jones-wp6.
- *There are assignments – WEB Projects 6 total. These will be graded on a 30 point basis.*
- The grading scale is designed to make grading relatively easy. See below for the actual contribution of quizzes and WPs to the grade.
- WEB Project days will be scheduled. On these days there will be no class so that you may work on the WEB Projects.
- *All web projects* are limited to approximately 12 Powerpoint slides. *You must include at least 5 web URLs with each web project. These 5 must be annotated, that is a one or two sentence evaluation of the web site. Wp’s without the annotated bibliography of URLs will not be graded.* If you copy or cut and paste text or figures you must include an attribution and for text (also) quotation marks. THERE IS NO PENALTY FOR QUOTING SOURCES if and only if proper attribution is made! There is a huge penalty for plagiarism.
- *Extra credit observing* – one solar and one night-time observing. Each observing (documented) will replace a missed quiz at 75% of the quiz value. Same is true of poor quizzes. *There is a limit of 2 quizzes that may be replaced.* A word to the wise: weather is unpredictable so get your EC observing in early! Go early in the term and go often – nothing helps the grade like EC observing.
- *GRADES:* On an approximate basis quizzes will contribute 20% of grade, web projects 40% of the grade, lab 20%. There are 6 web-projects.
  - No mid-term exam will be given.
  - There will be a comprehensive final exam which will count for 20% of your grade. The top 35% of the class may ask to be exempted from the final. (More may possibly be exempted by the professor.)
  - *Office hours:* (M&W: 1:00-3:00) or anytime you find me in M104 Nielsen Physics or by appointment (made before or after class, by e-mail, my extension is 4-7846, etc.)

**WEB PROJECTS:**
**WP1:** What is science and how does it work?
**WP2:** Our very own local star, the Sun. We can learn much from observing the Sun, from your studies on the web, tell us about the Sun.
**WP3:** Develop a personal conceptual picture of the cosmos/universe and your place in it. How can you form a conceptual picture of the Universe (or Cosmos) Do it and explain to me. It may
help seeing this project as your answer to a 9 year old sibling who asks you to explain what the universe and cosmos are.

**WP4:** Black holes – what are they, are they real, describe your conceptual model of a black hole.

**WP5:** Our home galaxy – the Milky Way. Tell us about the Milky Way and other nearby galaxies. And about Dark Matter and Dark Energy.

**WP6:** Search for extraterrestrial intelligence – your assessment AFTER exploring. How does the SETI team try to find evidence of extraterrestrial intelligence? observing.

**WEB PROJECT DUE DATES:**
1) Sept 9; 2) Sept 24; 3) Oct 14; 4) Oct 30; 5) Nov 6; 6) Nov 16
Due time: midnight on Date shown.
CLASS CALENDAR AND SYLLABUS

TOPICS
Astronomy Basis
Spectroscopy
Our Nearest Star, The Sun
Red Giants & White Dwarfs
How we characterize the stars.
Interstellar Medium
What is (way) out there?
Star Formation
How to build a star
Stellar Evolution
The path of a star to retirement
Stellar Explosions
Rowdy stars
Neutron Stars & Black Holes
Black Holes- are they really real?
The Milky Way Galaxy
The “Bricks & Mortar” of the universe?
Normal & Active Galaxies
What in the world (or out of it) is Cosmology?
Galaxies & Black Matter
The early universe (What, no McDonalds?)
Cosmology
The Early Universe
Life in the Universe

WEB PROJECT DAYS----
Sept 18
Sept 21
Other Days to be Announced

WEB PROJECT DUE DAYS ---- Above as stated.