

EARTH SCIENCE 115 - ASTRONOMY

SPRING 2004

Instructor: Bruce D. Dod, Ph.D.
Office: 114 Willet Science Center
Office Hours: Mon. 1:00-2:00, Tues. & Thurs. 11:00 - 12:00
Wed. 10:00 - 11:30, other hours by appointment
Phone: (478) 301-2599

Class Meetings: Lecture - Tues. and Thurs. 8:00 - 9:15
Room 110b, Willet Science Center
Laboratories - Sect. .01 - Tues. 1:40 - 4:20 PM
Sect. .02 - Wed. 1:00 - 3:30
Room 103 Willet Science Center

Text: Chaisson, E. and McMillan, S., 2002, ASTRONOMY TODAY,
4th Ed. Prentice-Hall, NJ, ISBN 0-13-091542-4

Material Covered: Chapters - All to some extent.
The successful student will have demonstrating knowledge and the ability to do the following: astronomical mensuration, birth of modern science, light and matter, tools of astronomy, solar system and its components, solar astronomy, planetary science, star types, stellar evolution, exotic stars and systems, our galaxy, normal galaxies, active galaxies, cosmology, extraterrestrial life and relativity.

Other information, such as studies of the "nature of science" and recent discoveries and news events in the astrosciences (discussed during the lecture and lab hours) will also be demonstratable by the successful student.

CLASS Policy: It is advised that you attend ALL lectures since some of the material does not come from the text book. If you should have to miss for some reason, be sure to ask a colleague or the instructor what was covered on that day and add it to your notes. Failure to regularly attend class indicates an unwillingness to partake in the normal educational process and such a lack of participation may reflect on your grade.

TESTS: There will be administered, four times during the semester, a test that will cover all the material since the previous test. Each will be compiled from textbook readings and other lecture material that may not be included in the text. Laboratory information will also be your responsibility for each exam. Short answer questions will prevail (true-false, multiple choice, matching, fill ins, etc.). One or more open ended questions may also be included to evaluate your writing skills and knowledge about a

particular topic. THERE WILL BE NO MAKEUP EXAMS GIVEN. Any test missed for ANY reason cannot be rescheduled for another time, nor can any be taken earlier than the announced time. Should one be missed, however, your final exam grade will be doubled to make up for the missed exam. If more than one exam is missed, it will be entered as a zero on the gradesheet. ANY exam missed must be accounted for with an excuse from the Dean or physician. The final exam will be similar in format to the 3 regular class tests; it will, however, be longer and COMPREHENSIVE but carry no more weight than a regular class exam. It cannot be missed. Students entering any exam after the first person has left the room may not take the test. Exam grades will not be changed or revised after one week has elapsed since they were returned.

As expected, strict adherence to the College's academic misconduct policy will be instituted. Any student failing to pass any exam or laboratory exercise will be expected to meet with the professor to discuss causes and possible remedies.

Students who believe that they possess disabilities for which accommodation is required must so inform the instructor at the close of their first class meeting. They must then indicate the nature of their disability and the sort of reasonable accommodation requested. The instructor will then refer you to the office of the Dean of Students for evaluation, documentation of your disability, and a recommendation as to the accommodation, if any, to be provided. If you do not consult with the instructor and follow up at the office of the Dean of Students, as provided above, you will thereby waive any claim to a disability and the right to any accommodation pertaining thereto.

LABORATORIES: Labs are held once a week according to your registration schedule (see also attached course calendar). The work in lab may be in addition to what was discussed in lecture, therefore expect little similarity in some of the material covered. Exercises are graded on a weekly basis and your final lab average will be computed from these scores. If you have to miss a lab for some excused reason, arrange to trade with a colleague in another section for the one occasion. All labs must be turned in within one 24 hour period of your scheduled time to get full grade consideration. Labs will be penalized one letter grade per school day thereafter.

GRADING: Final grade = T1 + T2 + T3 + FINAL + Lab Avg.

A=450+, B+=425-449, B=400-424, C+=375-399,
C=350-374, D=300-349. Bonus credits may be available
by attending video sessions, guest speaker seminars,
special homework assignments etc. if they arise.

LECTURE/CHAPTER SEQUENCE - ESC 115 ASTRONOMY - SPRING '04

Ch. 1 - Intro to Astronomy - Jan 8-13
Ch. 2 - History of Astronomical Thought - Jan 15
Ch. XX - Theory of Relativity - Jan 20-22
Ch. 3 - Light and Matter - Jan 27-29
Ch. 4 - Spectroscopy - Feb 3
TEST I - Feb 5
Ch. 15 - Solar System Genesis - Feb 10
Ch. 16 - The Sun - Feb 12
Ch.7/8 - The Earth/Moon System - Feb 17
Ch.8/10 - Terrestrial Planets - Feb 19
Ch.11/13 Jovian Planets - Feb 24
Ch.13/X - Pluto, Satellites, Rings, Etc. - Feb 26
Ch. XX - Meteoritics - Mar 2
TEST II - Mar 4
Ch. 17 - Measuring the Stars - Mar 16
Ch. 18 - Interstellar Medium - Mar 18
Ch. 19 - Star Birth and Fusion - Mar 23
Ch. 20 - Stellar Evolution - Mar 25
Ch. 21 - Stellar Death - Mar 30
Ch. 22 - Neutron Stars, Pulsars, Black Holes - Apr 1
TEST III - Apr 6
Ch. 24 - Normal Galaxies - Apr 8
Ch. 23 - Milky Way Galaxy - Apr 13
Ch. 25 - Active Galaxies and Quasars - Apr 15
Ch. 26 - Cosmology - Apr. 20
Ch. 28 - Life in the Universe - Apr 22
Ch. XX - Open Discussion
TEST IV FINAL EXAM 2-5pm - May 4

LABORATORY SCHEDULE

LAB # - WEEK OF

Lab 1 - Jan. 12: Black Box
Lab 2 - Jan. 26: Simple Laws
Lab 3 - Feb. 2: Spectroscopy
Lab 4 - Feb. 9: Telescopes
Lab 5 - Feb. 16: Sunspots

- Lab 6 - Feb. 23: Lunar Topography
- Lab 7 - Mar. 1: Astronomical Scale
- Lab 8 - Mar. 15: Star and Planet Locater
- Lab 9 - Mar. 22: Observatory Lab (done on own schedule)
- Lab 10 - Mar. 29: H-R Diagram
- Lab 11 - Apr. 5: Planetarium (TBA)
- Lab 12 - Apr. 12: Stellar Motion (Spectral)
- Lab XX - Apr. 19: TBA

ALL ATTEMPTS WILL BE MADE TO KEEP THIS SCHEDULE, HOWEVER EVENTS MIGHT ARISE THAT WILL NECESSTIATE DEVIATIONS. PLEASE BE AWARE OF THIS AND ADJUST THE CALENDAR ACCORDINGLY.