School of Earth and Space Exploration

Class Web Page: http://starrfield112.asu.edu

INTRODUCTION TO ASTRONOMY II: Stars, Galaxies, and the Universe

INSTRUCTOR:Regents Professor Sumner Starrfield, Ph.D.

OFFICE:	PSF 554
LECTURES:	Tu-Thu 10:30am to 11:45am IN ROOM PSF-166
OFFICE HOURS:	Tu-Thu 11:50 to - 12:30 IN PSF 554 **(AND BY APPOINTMENT <-- PREFERRED)**
	(THE DOOR WILL BE CLOSED-PLEASE KNOCK!)
TELEPHONE:	965-5081, 965-8950 (messages) OR 965-7569 (office)
E-MAIL:	ast112.asu@gmail.com (I answer E-MAIL –BUT put AST 112 in the Subject line)
TEXTBOOK:	Stars and Galaxies: 9th Edition: Authors: Seeds and Backman
	This is a custom edition for ASU-2016. Cengage Learning–available in the ASU bookstore

This Class is not on Blackboard and I do not use Powerpoint. If either of these bother you then please take another section.

COURSE DESCRIPTION

     This course is an introductory survey of modern astronomy and describes our understanding of stars, galaxies, the universe, and the tools necessary to understand their properties.   It is designed for both **non-science** and science students. The only pre-requisite is a knowledge of basic high school arithmetic and algebra. This is the second half of a two semester course, the other half is covered in AST 111. AST 111 and AST 112 are separate courses and it is possible to take one without taking the other. I will follow the the textbook rather closely but outside reading is encouraged.   Note that the text has many good discussion and review questions and you are encouraged to study them since I will use some of them for exam questions. In addition, articles and notes in Scientific American, Sky and Telescope, Astronomy, ... often provide interesting and fruitful supplements to our text. They are available in the Noble Library. You will be responsible for all the assigned reading, even if the material is not covered in class.

I will hand-out a set of math and science questions.
These questions are given to you to indicate if you have the skills necessary to work the problems given in class. If you cannot do many of the questions in this handout, I strongly suggest that you see me before continuing with the class. The answer key will be posted on a bulletin board on thefirst floor of Physical Sciences F wing next to the far left elevator. You will receive 3 exam points for turning it in with your name on it. I will announce the due date in class.

TEXTBOOK

Our textbook is a one semester version of a two semester introduction to astronomy. This book is cheaper than the two semester version and hardly any students take both semesters of introductory astronomy at ASU (111 and 112). This special edition has its own cover which shows the Light Echo around V838 Monocerotis. Check the copyright it should say: 2016, 2013. However, the bottom of that same page says Compilation 2016.

HONORS CREDIT:
If you are in the Honors College, I encourage you to take this class for Honors Credit. I will expect additional work such as a term paper. You must see me if you are interested in doing this so we can agree on what will be necessary to obtain Honors Credit.

EXAMS:
There will be three (3) one hour exams during the semester each worth 50 points (50 questions worth one point apiece). I announce the date at least 2 weeks before each exam. Absence from an exam will result in a score of zero. I drop the lowest score among the three one hour exams so that there will be no make-up exam. I cover material during the class that is not in the textbook. I will, therefore, examine you on material that is not in the textbook. If this concerns you, I remind you that there is an attendance requirement for all classes at ASU. I do not take roll and satisfy the requirement by this method.

The final exam is a two (2) hour exam and will be given on **TUESDAY May 3, 2016** from 9:50am to 11:40am in PSF-166 (this classroom). Everyone must take the final or you will Fail the course. Do NOT make airline reservations for any time before our final exam - there will be no early finals. The final exam is divided into two parts: one part covering the last quarter of the course and a second comprehensive part covering the entire course; it will be worth a total of 100 points.

All my exams are machine scored, multiple choice and are **open notes only**. You must bring a picture ID to each exam and be prepared to show it upon demand. You will need your ASU ID number to put on the scantron sheet. Neither cell phones, tablets, the textbook, or a laptop is allowed during an exam. I will hand out a review sheet before each exam outlining the material that I think is particularly important. However, you are responsible for coming to class and reading the textbook. The review sheet is not a substitute for either of these.

HOMEWORK:
From time to time during the semester, I will hand out sheets with questions or problems that require short answers. Each sheet will be worth 3 Exam points and I expect to hand out about 10 of these --more or less. I will use some of the questions on these sheets as questions on the exams. They will be due the next class period and the questions must be answered on the sheets that I have handed out. No copies and no late sheets will be accepted. These are a required part of the course and you must do at least 2 or 3 to pass this course. They are not extra credit - I add in the homework points before making up the final grade.

FINAL GRADE
I will make up the grades by totaling the number of exam plus exercise points accumulated during the semester. I will construct a curve based on the person with the largest number of points. I cannot tell how many points will be necessary for a particular letter grade but would guess that about 180 are necessary for an A, about 160 for a B, and about 120 for a C. These numbers are only **approximate.**

COMMON COURTESY:
(1) Show up on time.
(2) Please do not leave class early and rustle papers in preparation for leaving before class is dismissed.If you need to leave early, sit near an exit.
(3) Stay awake - putting your head down on the desk and going to sleep is very distracting.
(4) Don't read newspapers or surf the web or answer email with your laptop, tablet, or cellphone. I can tell when you are doing this by the laughter of the people behind you.
(5) Don't cheat off your neighbors exam sheet there is an honors code at ASU.
(6) Turn off your Cell Phones!

ACADEMIC DISHONESTY:
"Academic honesty is expected of all students in all examinations, papers, laboratory work, academic transactions and records. The possible sanctions include, but are not limited to, appropriate grade penalties, course failure (indicated on the transcript as a grade of E), course failure due to academic dishonesty (indicated on the transcript as a grade of XE), loss of registration privileges, disqualification and dismissal. For more information, see https://provost.asu.edu/academicintegrity (This statement included at the request of Provost Searle)

COMMON COURTESY:
A few common courtesy rules apply to this class.
(1) Please try to show up on time.
(2) Please do not leave class early and rustle papers in preparation for leaving before class is dismissed.
(3) Try to stay awake - putting your head down on the desk and going to sleep is very distracting.
(4) Don't read newspapers.
(5) Don't cheat off your neighbors exam sheet there is an honors code at ASU.
(6) **Turn off your Cell Phones!**

Schedule of Chapters (rough order - subject to change by announcement in class):

Week	Chapters	Subject Matter
1	Appendix A and 1	Units, Astronomical Data and the Scale of the Cosmos
2	2	The Night Sky
3	6	Light and Telescopes
4	7	Starlight and Atoms
5	8	The Sun as a Star (Only the part on nuclear reactions)
6	9	The Family of Stars
7	10	The Interstellar Medium
8	11	The Formation and structure of Stars
9	12	Stellar Evolution
10	13 and 14	The Deaths of Stars and Neutron Stars and Black Holes
11	15	The Milky Way Galaxy
12	16 and 17	Galaxies and Active Galaxies and Supermassive Black Holes
13	18	Modern Cosmology
14	26	Astrobiology: Life on Other Worlds