Astronomy 202: Stars, Galaxies and the Universe

Syllabus, Spring 2017

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Textbook: The Cosmic: Perspective Stars, Galaxies, and Cosmology, 8th edition: by Bennett, Donahue, Scheider, and Voit


On the web page will be posted the course schedule, lecture notes, reading and homework assignments

Required Coursework:

Lectures will be interactive with each student expected to participate in the discussions. It is encouraged that the reading assignments be completed before the lectures. In addition there will be daily in-class exercises such as short writing assignments, quizzes, and group projects which will count toward the participation portion of the grade. The lowest three participation grades will be dropped at the end of the term, but otherwise no make-ups will be given due to absence.

Homework will be assigned weekly and will be posted on the class website, typically a week before the due date. They will consist of short answers based and/or multiple choice questions based on the reading assignments. Students are encouraged to work together on the homework assignments and discuss results and conclusions, but copying of homework will result in no credit for either party involved. Points will be lost for assignments not turned in on time.

There will be three in-class exams. The exams will consist of essay questions in which the student will be asked to explain the concepts in the text and those gone over in class. There will be no mathematical problems on the exams.
Grading: 10% participation  
30% homework  
60% 3 in-class exams

Final grades will be computed from the grading scale:

- 90% - 100% = A
- 80% - 89.9% = B
- 70% - 79.9% = C
- 60% - 69.9% = D
- 59.9% - 0% = F

Your grade will be continuously updated on Canvas and you are encouraged to keep track of this throughout the term in order to ensure all grades have been entered correctly. Any discrepancies should be reported as soon as possible.

Learning Outcomes: After taking this course, students should be able to

- Relate observations of the night sky: rising and setting motions, lunar phases, stars and planets  
- Describe Earth's motion in space and how it affects the sky we see  
- Explain the reasons for seasons, lunar phases, and eclipses  
- Outline the Ptolemaic and Copernican cosmologies  
- Describe the roles of Copernicus, Brahe, Kepler, and Galileo in the Scientific Revolution  
- Describe and apply Newton's Laws of Motion and Universal Gravity  
- Explain the nature of electromagnetic radiation  
- Describe thermal radiation and Kirchoff's Laws  
- Summarize properties of telescopes and their instrumentation  
- Discuss star formation and structure and end state  
- Describe properties of galaxies  
- Explain the big bang theory and unsolved issues relating to cosmology  
- Distinguish the basic traits of legitimate science, and the methods of scientific reasoning  
- Paraphrase conceptual ideas through written and verbal work (homework, exams, and papers)