

**ASTR 220, SPRING 2007**  
**COLLISIONS IN SPACE**  
**INSTRUCTOR: Prof. Andrew S. Wilson,**  
**Room CSS 1215, tel 405 1519, e-mail wilson@astro.umd.edu**

**TEACHING ASSISTANT: Yana L. Radeva**  
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Required textbook:

“The Planetary System”, Third Edition, David Morrison and Tobias Owen (Addison Wesley)

Recommended textbook:

“Night Comes to the Cretaceous”, James Lawrence Powell. This book is published by both W. H. Freeman and Harcourt Brace. The two books are identical - either will do.

Jan 25	Course Introduction
30	The solar system
Feb 1	Solar system formation
6	Surfaces in the solar system, and the physics of impacts
8	The physics of impacts (cont.)
13	The Earth’s Moon
15	Formation of the Moon, and the nature of modern impactors
20	The Tunguska and Shoemaker-Levy 9 collisions
22	Geological ages, and the mass extinction of the dinosaurs
27	The Alvarez Theory
Mar 1	FIRST MID-TERM EXAM
6	Other mass extinctions and the Nemesis theory
8	Nova Video
13	Future impacts
15	Overview of rest of course, and the Sun (I)
20	SPRING BREAK
22	SPRING BREAK
27	The Sun (II) and other stars
29	The evolution of stars
April 3	SECOND MID-TERM EXAM
5	The evolution of stars (II)
10	The E/M spectrum and the discover of neutron stars and black holes
12	The Milky Way and Other galaxies
17	The distances to galaxies
19	Properties of galaxies and galaxy collisions
24	Collisions and formation of galaxies, and dark matter
26	Supermassive black holes in galaxies
May 1	Active galactic nuclei
3	Wormholes and timewarps
8	Catch up lecture
10	Concluding Remarks

Required reading for this course is Chapters 1 - 11 and Chapter 17 of the Morrison and Owen book.

These is a preliminary and incomplete summary of the synopsis. Other things may also be covered in class.

The **FINAL EXAM** will be given at the time listed in the schedule of classes page 12: Saturday, May 12, 08:00 a.m. to 10:00 a.m. in the same room as used for the lectures.

Best time to see instructor: Right after the class.

T. A. Office Hours: Tuesday 9:30 a.m. - 10:30 a.m.

The above schedule is only approximate; I shall spend longer on some things and less time on others.

**GRADING:**

There will be three exams. The first two count 30% and the final counts 40% of your score. Each exam is cumulative – i.e. it includes all the material covered up to that time. All exams are closed book exams.

**MISSED EXAMS:**

You should give the scheduled exams priority over all other activities. As a general rule, you should assume there will be **no** make-up exams in this course. An exception *may* be made under extraordinary circumstances, such as serious illness or family bereavement. To be considered for a make-up exam, you must do **both** a) and b):

a) provide evidence *in writing* of why you are/were unable to attend the exam. This means a doctor's letter for illness. If you know *before* the exam that you will be unable to take it, please give Prof. Wilson the written document no later than the day before the exam.

b) telephone (or e-mail) Prof. Wilson on or before the day of the exam. Leave a message on the answering machine if he is not there. You do not need to do this if you gave the written material to Prof. Wilson *before* the day of the exam.

**Only 1** make-up exam may be scheduled for each of the exams. If you miss both the exam and make-up for good reason (e.g. serious illness), you will be given an oral exam by the instructor.