AS 701 Interstellar Medium
Fall 2015
Wednesday 3:30 - 5:00; Friday 2:00 – 3:30
Astronomy Conference Room CAS 502

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Office Hours:
W 11-1:30, F 12:30-2:00 or by appointment

Overview:
AS 701 is an advanced course for first-year graduate students intended to give a broad exposure to most of the concepts, language, and current ideas in modern astrophysics. A secondary intent is to strengthen your problem-solving abilities, especially short problems likely to be faced daily by practicing astrophysicists and by graduate students facing qualifying examinations.

Grading:

Homework	60 %
Midterm Exam	15%
Final Exam	15%
attendance/participation	10 %

Late Work:
I do not accept late work except under extraordinary circumstances. Please contact me if you foresee an extraordinary circumstance to make arrangements. Homework is due at the beginning of lecture, every class.

Collaboration:
I encourage collaboration on problem sets and homework assignments, but please do not copy. Discussions about how to solve a problem are fine, but exchanging papers or direct copying of work is unacceptable.

Academic Conduct:

Each of you should adhere to the Graduate School's policies on academic conduct. Do not cheat, plagiarize, or copy another student's work.

Required Textbook:

Caroll and Ostlie, *An Introduction to Modern Astrophysics: Second Edition, ISBN 0-8053-0402-9.* Be sure to get the 2nd Edition, not the First Edition.

Expectations:

Attendance: I expect each student will attend every lecture presented in this course. Chronic absences (more than 5 lectures) may result in a failing course grade. If you do know you must be absent for professional or personal reasons, please let me know and we will arrange for you to keep up with the work. I also expect, and encourage, questions and participation.

Homework: I expect to issue homework assignments every day. Each homework assignment will be at the beginning of the next class. I expect every student to complete every homework assignment. Failure to turn in more than 75% of the homework assignments may result in a failing course grade. I do not accept late homework. Homework must be on ruled paper with straight (not frayed) edges, and in ink.

Academic Standards: I expect the homework you turn in to be your work and not the work of fellow classmates. Collaboration is encouraged, but not to the point of direct copying. Students are reminded to adhere to the behavior governed by the Graduate School policies www.bu.edu/academics/grs/policies.

Schedule:

Date	Lecture #	Topic	Reading Chapter
2-Sep	1	Course Intro; Celestial Sphere	
4-Sep	2	Celestial Mechanics	1
9-Sep	3	Light, Blackbodies	2
11-Sep	4	Special Relativity	3
16-Sep	5	Light & Matter	4
18-Sep	6	Telescopes	5
23-Sep	7	Binary Stars	6
25-Sep	8	Stellar Spectra & Classification	7
30-Sep	9	Stellar Atmospheres	8
2-Oct	10	Stellar Interiors I	9
7-Oct	11	Stellar Interiors II	10
9-Oct	12	Th Sun	11
14-Oct	13	Interstellar Medium; Star Formation	12
16-Oct	14	MIDTERM EXAM Chapters 1 -11	
21-Oct	15	Main Sequence, Pre-Main Sequence Evolution	13
23-Oct	16	Stellar Pulsation	14
28-Oct	17	Massive Star Evolution	15
30-Oct	18	White Dwarfs; Neutron Stars	16
4-Nov	19	General Relativity; Black Holes	17
6-Nov	20	Close Binaries	18
11-Nov	21	Milky Way Galaxy	24
13-Nov	22	Galaxies	25
18-Nov	23	Galactic Evolution	26
20-Nov	24	Structure of the Universe	27
2-Dec	25	Active Galaxies	28
4-Dec	26	Cosmology	29
9-Dec	27	Early Universe	30