

Astronomy 4020
Fall 2009
Syllabus

Course Logistics:

Classes: Monday, Wednesday, Friday
Period 7 (2:30pm to 3:20pm)
Room 254 in the Physics Building

Instructor: Dr. Robin Shelton

Office Hours: Tuesday 2pm - 3pm
Thursday 11am - 12 noon
Room 306A in the Physics Building

Textbook: *An Introduction to Modern Astrophysics*, 2nd ed.
by Carroll and Ostlie

Reference texts: *Galaxies in the Universe: an Introduction*
by Sparke and Gallagher
Stars, Galaxies, and Cosmology: The Cosmic Perspective
by Bennett, Donahue, Schneider, and Voit

Exams:

There will be 2 midterms and a final exam. The first midterm will cover Chapter 24 and Section 1 of Chapter 12. The second midterm will cover Chapters 25 and 26. The final exam will cover Chapters 27 and 28. Each of these 3 exams will be weighted equally; each is worth 25% of the course grade.

Homeworks:

Working out the solutions to problems is an excellent learning activity. For this reason, problems will be assigned on a semi-regular basis. In order to deal with unexpected emergencies, you may drop your lowest homework score. Homework is due on the date specified, before class-time begins. Homework that is received after class-time begins but within 1.5 hour will be given 75% credit. Homework that is received within 24 hours will be given 50% credit. It is not practical to collect or grade homework turned in more than 1 day late. Please do not ask for an exception. As a set, homeworks will contribute 25% of the course grade.

Support and Advice:

I am here to help you. I'd be happy to talk with you during office hours about the course material, how to solve the homework problems, how to study for the exams, etc. If you find that you are struggling with the course, why don't you come in to office hours to talk about the material?

Study tips: Reading all of the assigned material, taking notes during class, doing the homework, and talking with classmates about the concepts covered in the course tend to improve students' course grades by one or more grade points.

Understanding an upper division astronomy course usually requires about 6 hours/week for reading the text, 3 hours/week for attending lectures, several hours/problem-set for working the problems, and several hours/exam for exam preparation.

Revisions:

The syllabus may be revised in the future.

Class Schedule:

Day	Date	Reading	Topic
Mon.	Aug. 17	p. 874 - 881 (Ch 24.1)	Counting Stars in the Sky
Wed.	Aug. 19	p. 881 - 891 (start Ch 24.2)	The Morphology of the Galaxy
Fri.	Aug. 21	p. 891 - 898 (finish Ch 24.2)	"
Mon.	Aug. 24		finish material, work problems in class
Wed.	Aug. 26	p. 898 - 908 (start Ch 24.3)	The Kinematics of the Milky Way
Fri.	Aug. 28	p. 908 - 914 (continue Ch 24.3)	"
Mon.	Aug. 31	p. 914 - 922 (finish Ch 24.3)	"
Wed.	Sept. 2		finish material, work problems in class
Fri.	Sept. 4	p. 922 - 932 (Ch 24.4)	The Galactic Center
Mon.	Sept. 7	-	<i>Labor Day</i>
Wed.	Sept. 9	p. 398 - 404 (start 12.1)	Interstellar Dust and Gas
Fri.	Sept. 11	p. 404 - 411 (finish 12.1)	"
Mon.	Sept. 14		finish material, work problems in class
Wed.	Sept. 16		midterm review
Fri.	Sept. 18	(Ch 24 & 12.1)	First Midterm

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Mon.	Sept. 21	p. 940 - 948 (Ch 25.1)	The Hubble Sequence
Wed.	Sept. 23	p. 948 - 956 (start Ch 25.2)	Spiral and Irregular Galaxies
	Fri. Sept. 25	p. 957 - 963 (finish Ch 25.2)	”
Mon.	Sept. 28		finish material, work problems in class
Wed.	Sept. 30	p. 964 - 970 (start Ch 25.3)	Spiral Structure
	Fri. Oct. 2	p. 971 - 977 (continue Ch 25.3)	”
Mon.	Oct. 5	p. 978 - 983 (finish Ch 25.3)	”
Wed.	Oct. 7	p. 983 - 993 (Ch 25.4)	Elliptical Galaxies
	Fri. Oct. 9		finish material, work problems in class
Mon.	Oct. 12	p. 999 - 1008 (start Ch 26.1)	Interactions of Galaxies
Wed.	Oct. 14	p. 1008 - 1016 (finish Ch 26.1)	”
	Fri. Oct. 16	p. 1016 - 1025 (start Ch 26.2)	The formation of Galaxies
Mon.	Oct. 19	p. 1025 - 1032 (finish Ch 26.2)	”
Wed.	Oct. 21		finish material, work problems in class
Fri.	Oct. 23	(Ch 25 & 26)	Second Midterm
Mon.	Oct. 26	p. 1038 - 1044 (start Ch 27.1)	The Extragalactic Distance Scale
Wed.	Oct. 28	p. 1045 - 1051 (finish Ch 27.1)	”
	<i>Fri. Oct. 30</i>	–	<i>Fall Break</i>
Mon.	Nov. 2	p. 1052 - 1058 (Ch 27.2)	The Expansion of the Universe
Wed.	Nov. 4		finish material, work problems in class
	Fri. Nov. 6	p. 1058 - 1069 (start Ch 27.3)	Clusters of Galaxies
Mon.	Nov. 9	p. 1069 - 1080 (finish Ch 27.3)	”
Wed.	Nov. 11		finish material, work problems in class
	Fri. Nov. 13	p. 1085 - 1092 (start Ch 28.1)	Observations of Active Galaxies
Mon.	Nov. 16	p. 1092 - 1100 (continue Ch 28.1)	”
Wed.	Nov. 18	p. 1100 - 1107 (finish Ch 28.1)	”
	Fri. Nov. 20	p. 1108 - 1114 (start Ch 28.2)	A Unified Model of Active Galaxies
<i>Mon.</i>	<i>Nov. 23</i>	–	<i>Thanksgiving Break</i>
<i>Wed.</i>	<i>Nov. 25</i>	–	<i>Thanksgiving Break</i>
<i>Fri.</i>	<i>Nov. 27</i>	–	<i>Thanksgiving Break</i>
Mon.	Nov. 30	p. 1114 - 1121 (finish Ch 28.2)	AGN continued
Wed.	Dec. 2		finish material, work problems in class
	Fri. Dec. 4	p. 1122 - 1130 (Ch 28.3)	Radio Lobes and Jets
Mon.	Dec. 7	p. 1130 - 1139 (Ch 28.4)	Using Quasars to Probe the Universe
Tue.	Dec. 8	<i>“Friday Schedule”</i>	finish material, work problems in class
Thur.	Dec. 10	(Ch 27 & 28)	Final Exam, 3:30 - 6:30pm