Astrophysics II
ASTR 4020/6020
Fall 2021
Syllabus

Course Logistics:

Classes:	Monday, Wednesday, & Friday Period 3 (10:20 to 11:10 am) Room 327 in the Physics Building
Instructor:	Dr. Robin Shelton
Office Hour:	Tuesday 2 pm - 3 pm, via Zoom Contact me for Zoom link
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

Topic:

Astronomers have observed over a billion galaxies in addition to the galaxy that we live in, the Milky Way. Astrophysics II shows you the wide range of galaxies in the Universe, how they behave, and how they came to be as they are now. We begin the course with a close examination of our own galaxy. This provides a point of familiarity. In addition, it is a helpful comparison for when we move on to discuss other galaxies. Galaxies tend to be clustered together with other galaxies and so, later in the course, you will also learn about the overall distribution of galaxies. In addition to discussing these topics, I will talk more briefly about the expansion of the Universe, relativity, and if there is time, black holes.

Homeworks:

The best learning exercises are attending class, reading the textbook, and working out problems. Homework problems will be assigned on a semi-regular basis. As a set, they will be worth 1/4 of the coursegrade, but you may drop one homework score (your lowest score) in order to

deal with unexpected emergencies. Homework is due on the date specified, before class-time begins. Homework that is received after class-time begins but within 4.0 hours 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.

Exams:

There will be 2 midterms and a final exam. The first midterm will cover a few pages from Chapter 3, a section and a half of Chapter 12, and Chapter 24 and will be worth 1/4 of the course grade. The second midterm will cover Chapters 25 and 26 and be worth 1/4 of the course grade. The final exam will cover Chapters 27, 28, and 17 and be worth 1/4 of the course grade. The exams will be giving during class and the scheduled final exam period.

Support and Advice:

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.

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

We will follow the university policies on withdrawals, incompletes, and academic honesty. By applying to UGA, students have signed a statement that says "I will be academically honest in all of my academic work and will not tolerate academic dishonesty of others."
For more information, see The *University of Georgia Bulletin* and *A Culture of Honesty*.

Revisions:

The syllabus may be revised in the future.

Class Schedule:

Day	Date	Reading & Topic
Wed.	Aug. 18	From Aug. 18 through Sept. 13, we will cover
Fri.	Aug. 20	Chapter 24 (The Milky Way Galaxy), plus pages 60
Mon.	Aug. 23	through 62 in Chapter 3, plus pages 398 through 411
Wed.	Aug. 25	and pages 431 through 433 in Chapter 12.
Fri.	Aug. 27	”
Mon.	Aug. 30	”
Wed.	Sept. 1	”
Fri.	Sept. 3	”
Mon.	*Sept. 6*	*Labor Day*
Wed.	Sept. 8	continue with material noted above
Fri.	Sept. 10	”
Mon.	Sept. 13	”
Wed.	Sept. 15	*Review before 1st midterm*
Fri.	Sept. 17	**1st midterm (Ch 24, also some of Ch 3 & 12)**
Mon.	Sept. 20	From Sept. 20 through Oct. 25, we will cover
Wed.	Sept. 22	Chapter 25 (The Nature of Galaxies) and Chapter 26
Fri.	Sept. 24	(Galaxy Evolution).
Mon.	Sept. 27	”
Wed.	Sept. 29	”
Fri.	Oct. 1	”
Mon.	Oct. 4	”
Wed.	Oct. 6	”
Fri.	Oct. 8	”
Mon.	Oct. 11	”
Wed.	Oct. 13	”
Fri.	Oct. 15	”
Mon.	Oct. 18	”
Wed.	Oct. 20	”
Fri.	Oct. 22	”
Mon.	**Oct. 25**	**Second Midterm (Ch 25 & 26)**
Wed.	Oct. 27	see next page

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Class Schedule Continued:

Day	Date	Reading & Topic
Fri.	*Oct. 29*	*Fall Break*
Mon.	Nov. 1	From Nov. 1 through Dec. 7, we will cover
Wed.	Nov. 3	Chapter 27 (The Structure of the Universe),
Fri.	Nov. 5	Chapter 28 (Active Galaxies), and Chapter 17
Mon.	Nov. 8	(General Relativity and Black Holes)
Wed.	Nov. 10	”
Fri.	Nov. 12	”
Mon.	Nov. 15	”
Wed.	Nov. 17	”
Fri.	Nov. 19	”
Mon.	Nov. 22	”
Wed.	*Nov. 24*	*Thanksgiving Break*
Fri.	*Nov. 26*	*Thanksgiving Break*
Mon.	Nov. 29	continue with material noted above
Wed.	Dec. 1	”
Fri.	Dec. 3	”
Mon.	Dec. 6	”
Tue.	Dec. 7	UGA schedules this day like a Friday class
Fri.	**Dec. 10**	**Final Exam 8:00 to 11:00 am (Ch 27, 28, & 17)**