

Astr 101: Descriptive Astronomy
Fall 2024

Course Description: This course is a one-semester introduction to astronomy. Topics include the motion of objects in the night sky, orbital motion, observational techniques, light, the solar system, stars, and galaxies. The course is primarily lecture-based and does not include a lab, but some observations through the telescope are included. A student may not receive credit for both Astr 101 and Astr 103, nor for both Astr 101 and Astr 104, nor for both Astr 101 and Astr 204.

Course Objectives:

- Characterize the size and time scales of the universe.
- Describe the physical properties of different astronomical objects: planets, stars, galaxies, etc.
- Understand the techniques and methods used to gain new knowledge in astronomy
- Conceptualize complex issues or problems
- Interpret data and appraise evidence

Lectures: MW 6:00 – 7:15 pm in Lewis 101

Instructor: Dr. Akshay Khadse

E-mail: akhadse@olemiss.edu

Office Hours: Tuesday and Wednesday 1 pm - 2 pm or by appointment in Lewis 202

Textbook:

- Astronomy: At Play in the Cosmos, 2nd edition by Adam Frank ISBN 9780393428636.

Required Materials:

- Smartwork (online homework) access <https://digital.wwnorton.com/cosmos2>
 - **E-book is included with the homework system for \$48 total and is sufficient.**
 - Use the weblinks provided in the “Content” section of the Blackboard to access the textbook and register into the Smartwork system.
- Scientific calculator without internet access.
 - If purchasing a new calculator, I recommend Casio fx-115ESPLUS2.

Grading: The weightage for exams, homeworks and class activities is as follows:

In-class Activities	15 %
Smartwork Homework	30 %
Explore Further Assignment	5 %
Exam 1	15 %
Exam 2	15 %
Final Exam	20 %

Grading scale:

A	(percentage $\geq 92\%$)
A -	($90\% \leq$ percentage $<92\%$)
B +	($87\% \leq$ percentage $<90\%$)
B	($82\% \leq$ percentage $<87\%$)
B -	($80\% \leq$ percentage $<82\%$)
C +	($77\% \leq$ percentage $<80\%$)
C	($70\% \leq$ percentage $<77\%$)
D	($60\% \leq$ percentage $<70\%$)
F	(percentage $<60\%$)

In-Class Activities:

Before each class meeting, read the textbook sections listed on the schedule. During class, we will often do group activities based on your reading, so it is very important that you complete the reading ahead of class. Some in-class activities will be turned in for credit, based on completion.

Smartwork Homework:

There will be homework due at midnight every Wednesday. The assignment will be done online, using the Norton Smartwork system. Late homework is accepted with a 5% penalty per day past the deadline. You can purchase access for the E-book, Smartwork, and Interactive Simulations together for \$48 through the weblinks in the “Content” section on Blackboard. Links to do the Smartwork Homework will be placed in the “Smartwork homework” folder inside the “Content” Folder in Blackboard.

Explore Further Assignment Options:

- 1) Read a portion of (> 60 pages) or a whole book about astronomy or an astronomer.
- 2) Watch a movie that involves astronomy or an astronomer – was the science content accurate?
- 3) Research a topic related to astronomy or an astronomer, beyond what we learned in class. A good resource to browse for topics is the Scientific American website (full articles available via University of Mississippi library). If you already know what topic you are interested in, Wikipedia is a good place to start – follow the links to primary sources and other related pages.

After you read/listen/watch/research, do follow-up research if needed and then write a short (1-page, single-spaced) summary of what you learned, including connections to the topics from this class. Cite sources. This assignment is due on the last day of class but can be turned in at any point in the semester.

Exams:

Two exams and a comprehensive final, as shown on the schedule on the last page. The dates of the exams and final will not change unless the class is cancelled for unforeseen reasons (weather, emergency, etc.). The chapters covered on each exam may change if needed. No make-up exams will be given unless arrangements are made in advance or in the case of an unavoidable emergency. If you miss an exam or the final without making prior arrangements, you will receive a zero.

Attendance:

Consistent lecture attendance is important for your learning and your grade. Please scan your ID at the scanners in the classroom when you enter every class you attend. You will be able to make up any work you miss due to illness. Please do not come to class if you are feeling sick!

Plan for success:

Before each class, read the scheduled sections of the textbook and take notes. Your notes should include: main ideas, new vocab, sketches or diagrams if appropriate, and any questions you have while reading.

Consider using the [Cornell System](#), maybe with [sketchnoting](#)

During each class, keep your phone in your backpack to avoid temptation. Take notes, ask questions, and participate fully in group discussions and activities. [Active learning is effective learning](#).

After each class, wait a day or so and then [self-test](#).

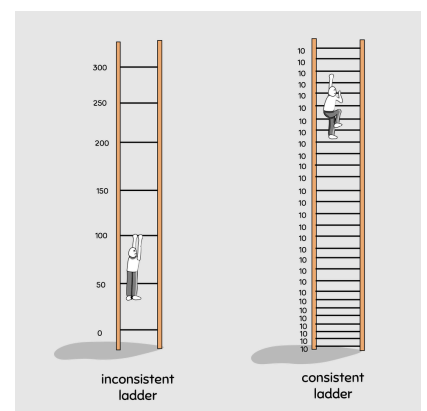
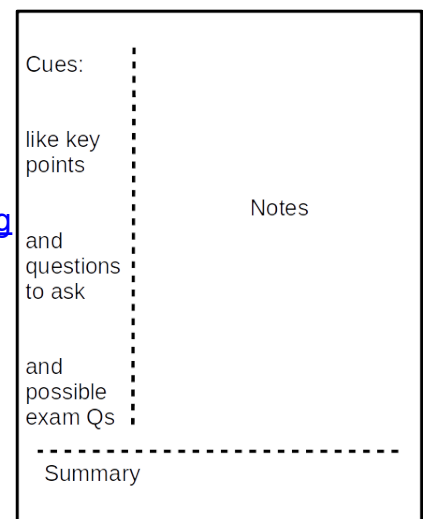
If you used the Cornell System, cover up the notes and summary sections. Look at the cues column and say out loud as much as you can remember. Then uncover the rest of the page and read it.

Several days before the due date, start the homework so you aren't rushed and have a chance to seek out help if necessary.

Anytime you need it, come to my scheduled office hours (no appointment needed) or set up an appointment with me by email mentioned on the front page of the syllabus.

Academic Honesty:

You may work with other students on the homework and in-class activities, but you cannot copy their work or allow them to copy from you. Make sure that all work submitted is your own, so that you would be able to fully explain it



to me or redo a similar problem if asked. Uploading the materials from this class to Chegg, Coursehero, or other cheating websites or using any solutions that are posted there would violate the [UM Standards of Honesty](#). Consequences for academic dishonesty depend on the seriousness of the offense and will be at least a zero on the assignment or exam and may include an overall grade of F.

Student Support Services:

The University Counseling Center is a professional facility offered by the University of Mississippi to assist students, faculty, and staff with many types of life stressors that interrupt day-to-day functioning, including the stressors associated with the COVID-19 pandemic. They offer individual counseling, couple's counseling, group counseling, stress management, crisis intervention, assessments and referrals, outreach programs, consultations, and substance abuse services. There is no fee for currently enrolled University students and everything you say to your counselor is confidential. You can contact the Counseling Center for information about mental health issues at <https://counseling.olemiss.edu>, counselg@olemiss.edu, 662-915-3784, and 320 Lester Hall. You can schedule an appointment or get information about appointments by calling the UCC at 662-915-3784.

Use of Generative AI Not Permitted:

Generative AI refers to artificial intelligence technologies, like ChatGPT, Gemini or others, that can draw on a large corpus of training data to create new written, visual, or audio content. In this course, we'll be developing skills that are important to practice on your own. Because the use of generative AI may inhibit the development of those skills, I ask that you refrain from employing Generative AI tools in this course. Using such tools for any purposes, or attempting to pass off AI-generated work as your own in parts or as a whole, will violate our academic integrity policy.

If you're unsure about whether or not a specific tool makes use of AI or is permitted for use on assignments in this course, please contact me. Given how fast these tools are changing, it's perfectly okay to ask what use is acceptable and what use isn't.

University-wide Policies:

Attendance

The university requires that all students have a verified attendance at least once during the first two weeks of the semester for each course. If your attendance is not verified, you will be dropped from the course and any financial aid will be adjusted accordingly. Please see <http://olemiss.edu/gotoclass> for more information.

Academic integrity and honesty

Students are expected to adhere to the University of Mississippi Creed and the Standards of Honesty as described in Policy Code ACA.AR.600.001 and the [M Book](#). Students are reminded that cheating in any form will not be tolerated. Performance on all tests and assignments shall represent the individual work of the student. Those who violate the

Standards of Honesty will be reported and subject to the appropriate sanction, which may include expulsion from the University.

Intellectual property

All materials distributed electronically and in hard copy in this class are protected under intellectual copyright. Any attempt to upload these documents to a file sharing service or to profit from their distribution by any means constitutes theft and will be in violation of intellectual property law and the UM Academic Conduct Code unless expressly permitted for by the instructor.

Nondiscrimination policy

The University complies with all applicable laws regarding affirmative action and equal opportunity in all its activities and programs and does not discriminate against anyone protected by law because of age, color, disability, national origin, race, religion, sex, sexual orientation, handicap, or status as a veteran or disabled veteran.

Disability Access and Inclusion

The University of Mississippi is committed to the creation of inclusive learning environments for all students. If there are aspects of the instruction or design of this course that result in barriers to your full inclusion and participation, or to accurate assessment of your achievement, please contact the course instructor as soon as possible. Barriers may include, but are not necessarily limited to, timed exams and in-class assignments, difficulty with the acquisition of lecture content, inaccessible web content, and the use of non-captioned or non-transcribed video and audio files. If you are approved through SDS, you must log in to your Rebel Access portal to request approved accommodations. If you are not yet approved through SDS, you must contact Student Disability Services (at 662-915-7128 or sds@olemiss.edu) so the office can (i) determine your eligibility for accommodations, (ii) disseminate to your instructors a Faculty Notification Letter, (iii) facilitate the removal of barriers, and (iv) ensure you have equal access to the same opportunities for success that are available to all students.

Examinations and last week of class

Regulations governing all examinations — A student's failure to appear for an examination without an acceptable excuse, inability to present valid identification, absence from the room during the course of an examination without the consent of the examiner, or attempting any portion of an examination without submitting his or her answers shall result in failure of the examination. Tardiness beyond 15 minutes forfeits a student's right to an examination.

Final examinations — A final examination, to be given at the time posted in the examination schedule, is required in each undergraduate course, unless the appropriate chair and dean have approved an exception. A student who has three or four final examinations in one day may arrange with the course instructor to take the noon or 7:30 p.m. examination at another time. In order to give a final examination at any time other than that shown in the posted examination schedule, an instructor must have prior approval of the department chair and dean.

Last week of class — The following guidelines exist to allow sufficient time for students and

instructors to prepare for final examinations. These guidelines apply to the week preceding final examinations for undergraduate courses held during Fall and Spring semesters.

During the period of Wednesday through Friday of the last week of class, instructors are not to give exams, tests, or quizzes that contribute more than 10% of the final grade for a class. An instructor can obtain approval of the department chair and dean to give an exam, test, or quiz, of this weight, during this three day period. Instructors should return graded work and/or inform students of their grades on exams, tests, or quizzes prior to the beginning of finals week.

Exceptions to the above statement are automatically made for lab-based courses, technical writing courses, seminar courses that assign a term paper, and senior design courses that assign a multi-faceted project in lieu of a final exam. Major projects of the above types, which contribute more than 10% of the final grade and which are due during this Last Week period, should be assigned in the syllabus at the beginning of the semester and any substantial change in the assignment should be made known to students before the drop deadline.

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1 8/26 – 8/30	1.1 – 1.5		2.1 – 2.6		
Week 2 9/2 – 9/6	Labor Day No class		3.1 – 3.3 HW 1 due		
Week 3 9/9 – 9/13	3.4 – 3.5		4.1 – 4.3 HW 2 due		
Week 4 9/16 – 9/20	4.4 – 4.5		5.1 – 5.3 HW 3 due		
Week 5 9/23 – 9/27	Exam 1 1-4		5.4 – 5.5 HW 4 due		
Week 6 9/30 – 10/4	6.1 – 6.3		6.4 HW 5 due		
Week 7 10/7 – 10/11	7.1 – 7.3		7.4 HW 6 due		
Week 8 10/14– 10/18	8.1 – 8.5		9.1 – 9.4 HW 7 due		
Week 9 10/21– 10/25	10.1 – 10.4		11.1 – 11.2 HW 8 due		
Week 10 10/28–11/1	Exam 2 5-10		11.3 – 11.4 HW 9 due		
Week 11 11/4 – 11/8	12.1 – 12.6		13.1 – 13.4 HW 10 due		
Week 12 11/11– 11/15	13.5 – 13.7		14.1 – 14.5 HW 11 due		
Week 13 11/18– 11/22	15.1 – 15.6		16.1 – 16.5 HW 12 due		
Break Week 11/25– 11/29	No class	No class	No class	No class	No class
Week 14 12/2 – 12/6	Some 17		Some 18 EFA due		
Finals Week 12/9 – 12/13			Final Exam 7.30 pm		