Astr 101: Descriptive Astronomy

Fall 2025

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.

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

Class Meeting Time: none, this is an online course

Instructor: Dr. Jennifer Meyer (call me Dr. Meyer or Professor Meyer)
Office: Lewis 211B
Phone: 662-915-2673
E-mail: jameyer2@olemiss.edu (this is the best way to reach me)

Office Hours: Thursdays 10:00 – 10:50 am on Zoom https://olemiss.zoom.us/s/9246403326

1:1 appointments in Lewis 211B or Zoom are set up here: https://calendly.com/jameyer2/oneonone

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 $50.95 total and is sufficient.
- Access to the Internet, preferably high-speed Internet, for the duration of this course.
- Scientific calculator (like TI-36X Pro) or access to one online https://www.desmos.com/scientific

Grading: The points you earn over the entire semester determine your final grade, as follows:

Embedded Questions	140 points (140 x 1 point each)
Smartwork Homework	210 points (14 x 15 points each)
Blackboard Quizzes	210 points (14 x 15 points each)
Explore Further	140 points (4 x 35 points each)

Total Possible	700 points

Grading scale:

644 ≤ points ≤ 700	A	(percentage ≥ 92%)
630 ≤ points < 644	A -	(90% ≤ percentage <92%)
609 ≤ points < 630	B +	(87% ≤ percentage <90%)
574 ≤ points < 609	B	(82% ≤ percentage <87%)
560 ≤ points < 574	B -	(80% ≤ percentage <82%)
539 ≤ points < 560	C +	(77% ≤ percentage <80%)
504 ≤ points < 539	C	(72% ≤ percentage <77%)
490 ≤ points < 504	C -	(70% ≤ percentage <72%)
420 ≤ points < 490	D	(60% ≤ percentage <70%)
0 ≤ points < 420	F	(percentage <60%)

Embedded Questions:
You will watch several lecture videos each week, recorded via Panopto and linked on Blackboard. In each video, there will be at least one embedded question that you will answer for points. These videos contain additional information that is not in the textbook. You should read the textbook AND watch the videos.

Smartwork Homework:
There will be homework due at 11:59 pm Central every Sunday. The assignment will be done online, using the Norton Smartwork system. Late homework is accepted, up to 14 days after the deadline. You can purchase access for the E-book, Smartwork, and Interactive Simulations together for $50.95 here: https://digital.wwnorton.com/cosmos2. You can get 21 days of free trial access, so don't wait to start your homework.

Blackboard Quizzes:
At the end of each module, you will complete a Blackboard quiz. You can use your textbook and notes to complete the quiz, but you cannot consult other people or AI.

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?

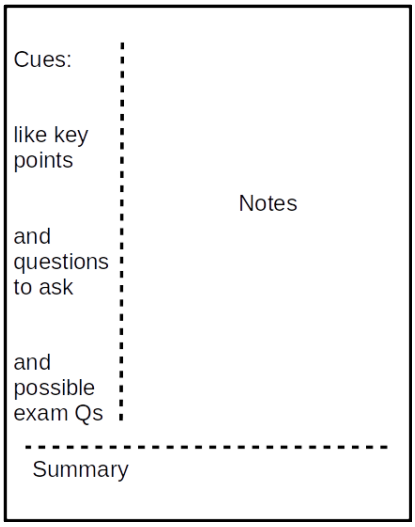
3) Research a topic related to astronomy or an astronomer, beyond what we learned in class. A good resource to browse for topics is the Scientific American website (full articles available via University of Mississippi library). If you already know what topic you are interested in, Wikipedia is a good place to start – follow the links to primary sources and other related pages.

A list of suggestions is on Blackboard, but feel free to choose something else if it interests you. After you read/listen/watch/research, create a short presentation of 1-3 slides (in Powerpoint, Canva, etc). Then record a video that shows both you and your slides, about 3-5 minutes long. Upload to Blackboard.

Academic Honesty:
Make sure that all submitted work is completely your own. You may discuss the homework (but not the quizzes) with other students, but you cannot copy their work or allow them to copy from you. You cannot use AI to generate your quiz answers or Explore Further slides (not even as a first draft). Uploading the materials from this class to Chegg, Coursehero, or other cheating websites or using any solutions that are posted there violates the UM Standards of Honesty. Consequences for academic dishonesty depend on the seriousness of the offense and will be at least a zero on that assignment and may include an overall grade of F.

Plan for success:

- **At the start of each module,** 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. Take notes, then wait for a day and two and self-test. 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.

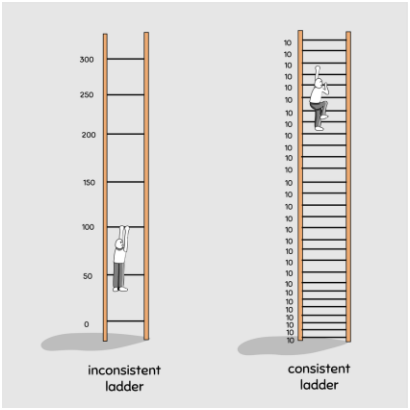


- **Spaced throughout the week**, watch the videos and complete the embedded questions. Add to your notes. I recommend you silence your phone notifications and find a quiet, distraction-free place to watch the videos as they contain additional information that is not in the textbook.

- **Midweek,** start the homework so you aren't rushed and have a chance to seek help if necessary.

- **At the end of each module,** set aside an hour with no interruptions to take the Blackboard quiz. Think carefully about your answers and don't rush. Gather your notes and open the eBook before starting.

- **Anytime** you need it, come to my scheduled office hour (no appointment needed) or set up an appointment with me using the Calendly link on the front page of the syllabus.



Estimated Time Commitment each week:

Read the textbook:	3 hours
Watch the videos with embedded questions:	2 hours
Smartwork Homework:	1 hour
Blackboard Quiz:	1 hour
Explore Further:	1 hour

Total: 8 hours per week

Inclusion:
I commit to fostering a classroom environment that fully supports, values, and engages every student on their learning journey. You can help by treating yourself and your classmates kindly and with respect.

Student Wellbeing:
Many college students struggle with physical and mental health issues as they navigate busy schedules, academic pressures, and difficult life transitions. Your wellbeing is important to me, and I encourage you to prioritize it. If a health issue or life circumstance of any kind is impacting your ability to succeed in this class, please don't hesitate to contact me so we can make a plan to support your learning. I also encourage you to take advantage of campus and community resources that can help, such as the University Counseling Center in 220 Lester Hall. There is no fee for currently enrolled University students and everything you say to your counselor is confidential.

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. **For this online course, we will use completion of the first Blackboard quiz as a proxy for attendance.**

University-wide Policies:

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 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.

Here is a checklist to help you mark your progress through the course.

		Read	Videos	Smart-work	Quiz	Explore Further
Week 1 8/25 – 8/31	Module 1: Big numbers, the night sky Ch 1.1 – 1.5, Ch 2.1 – 2.6					-
Week 2 9/1 – 9/7	Module 2: Orbits and gravity Ch 3.1 – 3.5					-
Week 3 9/8 – 9/14	Module 3: Light and spectra Ch 4.1 – 4.3					-
Week 4 9/15 – 9/21	Module 4: Telescopes, planetary systems Ch 4.4 – 4.5, Ch 5.1 – 5.5					-
Week 5 9/22 – 9/28	Module 5: The Earth, GHE Ch 6.1 – 6.3					-
Week 6 9/29 – 10/5	Module 6: The Moon and Mercury Ch 6.4, 7.1 – 7.2					#1 due
Week 7 10/6 – 10/12	Module 7: The rest of the planets Ch 7.3 – 7.4, Ch 8.1 – 8.5					-
Week 8 10/13 – 10/19	Module 8: Habitability and the Sun Ch 9.1 – 9.4, Ch 10.1 – 10.4					-
Week 9 10/20 – 10/26	Module 9: Measuring the stars Ch 11.1 – 11.4					#2 due
Week 10 10/27 – 11/2	Module 10: Stars from birth to death Ch 12.1 – 12.6, 13.1 – 13.3					-
Week 11 11/3 – 11/9	Module 11: Stellar remnants, black holes Ch 13.4 – 13.7, Ch 14.1 – 14.5					-
Week 12 11/10 – 11/16	Module 12: Galaxies and dark matter Ch 15.1 – 15.6, 16.1 – 16.2					#3 due
Week 13 11/17 – 11/23	Module 13: AGN and the cosmic web Ch 16.3 – 16.5, Ch 17.1 – 17.5					-
Break Week 11/24 – 11/30	No classes this week!	-	-	-	-	-
Week 14 12/1 – 12/7	Module 14: The Big Bang to the end Ch 18.1 – 18.5					#4 due
Finals Week 12/8 – 12/14	No final for this class!	-	-	-	-	-