

# Fall 2023 Syllabus

## ASTR 152: Stars, Galaxies, and Cosmology

### General Information:

**Instructor:** Dr. Nau Raj Pokhrel  
**Office:** 214 Nielsen Physics Building, UTK  
**Email:** [npokhrel@utk.edu](mailto:npokhrel@utk.edu) or, via the Canvas message system  
**Phone:** (865) 974-5697  
**Classroom:** Nielsen 415  
**Class Time:** Tuesday & Thursday from 9:10 AM to 10:00 AM  
**Office Hours:** Monday from 10:10 AM to 11:30 AM  
Tuesday & Thursday from 11:10 AM to 12:30 PM  
Or by email appointment

**Communication:** The majority of classroom communication will be conducted via the Canvas for this class. To ensure prompt response from me, follow the email policy:

- Please put “**ASTR 152**” in the subject line of all course related emails. This practice will help me identify course related emails and respond promptly.
- You can expect delay in responding to emails; I will try to minimize such delays, but do not email me on the evening an assignment is due or before an exam expecting an immediate response. If you don't get response after a couple of days or according to urgency, please resend the email.
- Before emailing me with questions about the course, please ensure that the information is not already provided in the course syllabus or on Canvas.

### Course Description & Goals:

**Course Overview:** ASTR 152 is a 3 credit-hour introductory astronomy course which satisfies the general education requirement for non-science majors. In this course we study the Earth's nearest astronomical neighbors- including the sun, planets, asteroids, and comets. The course also covers seasons, solar and lunar eclipses, motion of the planets in the night sky, recent planetary space probe discoveries, development of our modern understanding of the origin and evolution of our solar system and its place in the universe, discovery of extrasolar planets in distant solar systems.

**Pre/corequisites:** The course doesn't have any pre/corequisites. However, a minimum of mathematical analysis is expected.

### You will need the following resources for the course:

1. Pearson Mastering Astronomy for the Cosmic Perspective (10th Edition) by Bennett et

- al. This the **inclusive access** content. **You don't need to pay it separately, and you don't need any access code.** For the first-time registration, you can go to any HW link in the assignment module of Canvas and proceed.
- The Cosmic Perspective (10th Edition) by Bennett et al, Pearson. **If you prefer eText, it is included in the Pearson Mastering Astronomy, you don't need to purchase the print Textbook.** If you prefer the print textbook, you can have one, **but you do not need to purchase the current edition of the textbook.** The material does not change significantly between editions and any recent edition will meet your needs for the course.
  - Point Solutions (Clicker) Registration:** We will be using the clickers in almost all lectures, but the hardware clicker won't be used. So, make sure you have downloaded the app, and it is ready by the first class. Follow the link provided on Canvas in the Module section to register your app. You just need to follow the link and Log-in to the website. If you see our course on the website, your registration is complete! Note that **you must use your UTK email ID** to register otherwise your score won't be integrated into Canvas. For a detail information and support, visit the UTK OIT website. ([Click Here for the Website Link](#)).

**Class Schedule:** The following is a class schedule along with lecture topics, assignments etc. **This is a tentative schedule** and might differ as our class speed. Any changes, and notices made in the classes/announcements supersede the schedule.

Day	Week	Chapter	Topics	HW
23-Aug	1	Introduction/ Chapter 1	Syllabus Review/ A Modern View of the Universe	HW 1 (Ch 1)
25-Aug				
28-Aug	2	Chapter 1/2	Discovering the Universe for yourself	
30-Aug				
1-Sep				
<b>4-Sep</b>	3	<b>Labor Day</b>		
6-Sep		Chapter 3	The Science of Astronomy	HW 2 (Ch 2)
8-Sep				
11-Sep	4	Chapter S1	Celestial Timekeeping and Navigation	HW 3 (Ch 3, S1)
13-Sep		Chapter 4	Making Sense of the Universe	
15-Sep				
18-Sep	5	Chapter 5	Light and Matter	HW 4 (Ch 4)
20-Sep				
22-Sep				
25-Sep	6	Chapter 5/6	Lights and Matter/Telescopes	
27-Sep				
<b>29-Sep</b>				
<b>2-Oct</b>	7	<b>Mid-Term Exam I (Chapters 1-4, S1)</b>		HW 5 (Ch 5, 6)
4-Oct		Chapter 14	Our Star	
6-Oct				

<b>9-Oct</b>		<b>Fall Break</b>		
11-Oct	8			
13-Oct		Chapter 14/15	Our Star/Surveying the Stars	
16-Oct	9			HW 6 (Ch 14, 15)
18-Oct		Chapter 15/16	Star Birth	
20-Oct		Chapter 16/17	Star Stuff	
23-Oct	10			HW 7 (Ch 16, 17)
25-Oct		Chapter 17/18	The Bizarre Stellar Graveyard	
<b>27-Oct</b>		<b>Mid-Term Exam II Review Quiz</b>		
<b>30-Oct</b>		<b>Mid-Term Exam II (Chapters 5-6 &amp; 14-17)</b>		
1-Nov	11	Chapter 18	The Bizarre Stellar Graveyard	HW 8 (Ch 18, 19)
3-Nov		Chapter 18/19	Our Galaxy	
6-Nov	12			
8-Nov		Chapter 19/20	Galaxies and the Foundation of Modern Cosmology	
10-Nov				
13-Jan	13	Chapter 20/21	Galaxy Evolution	HW 10 (Ch 20, 21)
15-Nov		Chapter 21/22	The Birth of the Universe	
17-Nov				
20-Nov	14	Chapter 22/23	Dark Matter Dark, Energy, and the Fate of the Universe	HW 11 (Ch 22, 23, 24)
<b>22-Nov</b>		<b>No Class Day</b>		
<b>24-Nov</b>		<b>Thanksgiving Holiday</b>		
27-Nov	Chapter 23/24	Life in the Universe		
<b>29-Nov</b>	15	<b>Mid-Term Exam III Review Quiz</b>		
<b>1-Dec</b>		<b>Mid-Term Exam III (Chapters 18-23)</b>		
4-Dec	16	Course Wrap-up		
<b>6-Dec</b>		<b>Final Exam Review Quiz</b>		
<b>12-Dec</b>		<b>TUE</b>	<b>Final Exam (10:30 AM-12:00 PM) Cumulative (Chapters 1-6, 14-24, S1)</b>	

## Grading & Evaluation:

**Clicker Quizzes & Discussion Participation:** In the class meeting, you will be responding quizzes during the lectures. Clicker response grade is divided equally to participation (50%) and the correct response (50%). Your participation in discussion forum on canvas also includes the participation grade.

**Homework Assignments:** You will be assigned homework on Mastering Astronomy. You can access them via the link provided on Canvas Assignments. You will have three attempts for each Homework, and the highest grade will be the HW grade. The assignments will be due on the indicated due date under the assignment module on Canvas.

**Mid-term Exams:** There will be THREE midterm tests. The tentative dates for the midterms are indicated on the schedule. ***Please note that these dates are subject to change as we progress through the course material but they will be finalized at least a week prior so that you can plan accordingly.*** Each midterm exam will be 45 minutes in length.

**Final Exam:** The final exam will be given on the day as scheduled by the registrar's office (see the schedule). If you determine that you have a conflict with that time or have three or more exams scheduled on that day, please let me know as soon as possible. The Final Exam will be two hours in length and cumulative in scope, covering all the course materials discussed in the semester.

## Grading Scheme:

**Grades:** Your grade is calculated based on many elements of the course. See the table below for details on this.

Course Element	%
Mid-term Exam I	10%
Mid-term Exam II	10%
Mid-term Exam III	10%
Final Exam	20%
Homework	40%
In-class Quiz/Discussion Participation	10%
Total	100%

**Letter grade will be obtained using the conversion below:**

%	Grade
90% and above	A
87% - 89%	A-
83% - 86%	B+
80% - 82%	B

77% - 79%	B-
73% - 76%	C+
70% - 72%	C
67% - 69%	C-
63% - 66%	D+
60% - 62%	D
57% - 59%	D-
< 57%	F

**(Note:** The instructor reserves the right, when necessary, to alter the grading policy, change examination dates, and modify the syllabus and course content. Modifications will be announced in class. Students are responsible for announced changes.)

## Other Information:

**Class Rules:** Students need to follow the following guidelines and classroom etiquette to ensure a positive and respectful learning environment for everyone:

- **Arrive to the class on time:** don't make it a habit to join late.
- **Cell Phones/Technology:** Be respectful. Use of electronic devices for academic work is fine but use of electronic devices for other purposes is not. Turn off your cell phones when we are not using them in quizzes. While on the computers social networking is not allowed. Repeated abuse will result in being dismissed from that class and asked to return next week. No credit will be given for such dismissal.
- **Avoid side conversations:** The noise is distracting to other students, and you will impact the learning environment, so avoid private conversations in the classroom.
- **Be respectful:** Act in a matured/polite manner and be respectful of the learning process, your instructor, classroom, and your fellow students. Respect to the learning environment is projected in many ways including your body language e.g., do not put your feet/legs on the back of the seats in front of you.
- **Raise your hand:** If you have a question or comment during the class, please raise your hand.
- **Share the air:** If you have been dominating the discussion or participating disproportionately, let others participate. Alternatively, if you haven't said much, you are encouraged to participate more.
- **Use respectful and socially inclusive language.**

**How to succeed and get a good grade in the class:** The number of lecture hours in this class are not enough to cover all parts of the syllabus in detail. Hence reading assignments and home works are provided. A good portion of success in this class depends

on coming class to prepared, actively participating during the class and completing home works as assigned.

- Please communicate with me on time if you have any questions so that we can work together for the success.
- Read the course material before coming to the class.
- In the class, participate actively and respond to all the clicker questions so you can earn your quiz/participation credit.
- Follow the class rules and behavior etiquette while in the class.
- Complete all the assignments on time.

**Your Feedback/Suggestions on the course:** You are encouraged to provide feedback on any aspect of the course all through the semester using any communication method you prefer. Your **grades will not be impacted by any feedback** you provide, they will be purely based on your coursework and lab work. However, your discretion in these matters is expected. You will also have an opportunity to give feedback at the end of the semester through the Course Evaluation System. Your feedback is critical in improving the course. Each year I take the information provided in feedback seriously so please take the time to fill out the feedback forms in a thoughtful manner.

## **Students with disabilities:**

The University of Tennessee, Knoxville, is committed to providing an inclusive learning environment for all students. If you anticipate or experience a barrier in this course due to a chronic health condition, a learning, hearing, neurological, mental health, vision, physical, or other kind of disability, or a temporary injury, you are encouraged to contact Student Disability Services (SDS). An SDS Coordinator will meet with you to develop a plan to ensure you have equitable access to this course. If you are already registered with SDS, please contact your instructor to discuss implementing accommodations included in your course access letter.

## **Student Disability Services Contact Information:**

915 Volunteer Boulevard

100 Dunford Hall

Knoxville, TN 37996

Phone: (865) 974-6087

Fax: (865) 974-9552

Email: [sds@utk.edu](mailto:sds@utk.edu)

Website: <https://sds.utk.edu/>

***For additional important information (Academic integrity, civility statement, UT alerts, ...) please see the Campus Syllabus ([Click here to download the Campus Syllabus](#)).***