

Astronomy 122: Stellar Evolution, Galaxies, and Cosmology  
Section 1, Spring 2026  
CS 311 @ 11:00 AM–12:15 PM, TR

**Instructor:** Prof. Robert (Bob) Berrington  
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**Office Hours:** 11:00 AM – 12:00 PM WF, or by appointment  
**Text Book:** *Foundations of Astronomy*, 14<sup>th</sup> Ed. by Seeds & Backman

**Course Objectives:** This course is an introduction to the nature of the life and death of stars and their remnants, and the nature and structure of the Universe itself. Topics covered will include stellar evolution, the special and general theory of relativity and its consequences, and current understandings (and unknowns/misunderstandings) into the nature and structure of the Universe.

**Homework Assignments:** A total of six homework assignments will be given throughout the course. The lowest homework assignment will be dropped. While I encourage students to collaborate on homework assignments, all handed assignments must be your *own work written in your own words*. Assignments, unless noted, will be due two weeks from the day the assignment is handed out. Homework assignments will *not* be accepted after the due date.

**Exams:** Throughout the course, I will give two mid-term exams and a *comprehensive* final exam. The lowest mid-term exam score will be dropped, and the remaining exam score will be used to compute grades. *The final exam cannot be dropped.* You will be allowed **1 hour for the mid-term exams**, and **2 hours for the final exam**. All mid-term exams will be worth a total of 100 points, and the final examination will be worth a total of 150 points. Exams are listed in the tentative schedule below to indicate during which week the exams will begin. The exam schedule is given in the following table, but may be subject to change if circumstances warrant. All tests will be given through Canvas. Because tests are given over a range of dates (see following table), make-up tests will only be allowed in *extraordinary* circumstances.

Exam	Scheduled Dates
1	Thursday, February 05 $\longleftrightarrow$ Tuesday, February 10
2	Thursday, March 26 $\longleftrightarrow$ Tuesday, March 31
Final	Tuesday, April 28 $\longleftrightarrow$ Friday, May 1

**Attendance Policy:** Your attendance will make up a significant component of your *Participation grade*. That means having read any materials to be covered during the class prior to the class meeting time. This also means that it will be the responsibility of the student to make up for any material covered in a missed class. *Nota Bene* (NB): Please note the aforementioned policy regarding late assignments.

**Grades:** The grades will be based on the total points acquired on the homework, quizzes, exams and participation. In the following table, I have summarized the points available over the semester. Grades will be determined by the overall distribution of total points accumulated by students in the course. This means grades will be *curved*, but will never exceed the scale: 100-90 A, 90-80 B, 80-70 C, 70-60 D, and 0-60 F.

Item	Points Each	Total Points	Percentage of Total
Homework	50	250	46%
Participation	50	50	9%
Exam	100	100	18%
Final	150	150	27%
Total Points		550	100%

**Schedule:** I have included a *tentative* schedule of the subjects to be covered in class on the following page. I have also included dates of exams, but not homework assignments. *NB:* The dates given are the day of the first day of the week or Monday. This is intended to indicate the weeks placement on the calendar. This is in part because of the uncertainty of the semester. Please note that the schedule is *tentative*.

Week	Day	Subjects	Assignments
1	1/05	Introduction	
2	1/12	Gravity	HW 1
3	1/19	Light & Telescopes	
4	1/26	Atoms & Spectra	HW 2
5	2/02	The Formation of Stars & the ISM	<i>Exam #1</i>
6	2/09	Stellar Evolution	HW 3
7	2/16	The Death of Stars	
8	2/23	Neutron Stars & Black Holes	HW 4
9	3/02	<b>Spring Break</b>	<b>No Class!–Party!</b>
10	3/09	The Milky Way	
11	3/16	Galaxies: Normal and Active	HW 5
12	3/23		<i>Exam #2</i>
13	3/30		
14	4/06	Modern Cosmology	HW 6
15	4/13		
16	4/20	Astrobiology: Life on Other Worlds	
17	4/27	<b>Finals Week!</b>	<b>Final Exam</b>

*Academic Honesty:* Cheating is prohibited at Ball State University. Copying other peoples work without attribution is not permitted and may be subject to disciplinary measures.

*Students with Disabilities:* If you need adaptations or accommodations because of a disability, or if you have emergency medical information to share with me, please contact me as soon as possible. Ball State's Disabled Student Development office coordinates services for students with disabilities; documentation of a disability needs to be filed in that office before any accommodations can be provided. Disabled Student Development can be contacted at 765-285-5293 or dsd@bsu.edu.

*University Statement:* We are committed to ensuring that all members of the community are welcome, through valuing the various experiences and worldviews represented at Ball State and among those we serve. We promote a culture of respect and civil discourse.