PHYS 1403.003IN
Stars and Galaxies
Spring 2022
Online

Instructor Information: **Name:** Meade Brooks
Email: bbrooks17@com.edu

Office hours and location: Virtual office hours by appointment via Blackboard or Zoom. I reside in the Dallas - Fort Worth area and work remotely.

Course Communication: The best way to contact me is through my COM e-mail bbrooks17@com.edu or (preferably) within the Blackboard course mail system. I will respond to e-mails within two days of receiving them, with the exception of weekends, holidays, and unscheduled COM closures. ALL electronic communication with the instructor must be through your COM email (or within Blackboard). Due to FERPA restrictions, faculty cannot share any information about performance in the class through other electronic means.

Required Textbook: *Cosmic Perspective Plus Mastering Astronomy, 9th Edition,* authors: Jeffrey O. Bennett, Megan O. Donahue, Nicholas Schneider, Mark Voit.

Your exams and homework assignments are accessed in the MasteringAstronomy online assignment system. You may purchase course materials online at the Pearson store. A **digital package** is available (eText plus MasteringAstronomy – 18 month license) for a rate of $64.99 (ISBN 9780136904496). This option gives you immediate textbook access: https://www.pearson.com/store/p/cosmic-perspective-the/P100002967802/9780136904496

When prompted enter the following COURSE ID for this class: **brooks55924**

Once you are registered in MasteringAstronomy for this course, you will have access to your assignments. Be sure your textbook purchase includes MasteringAstronomy! You will be unable to complete your chapter assignments or exams without access to MasteringAstronomy.

Course Description: This course provides an introductory account of stars and their structure, neutron stars, black holes, the Milky Way galaxy, active galaxies, and our universe, including theories of their origin and end states. The course is conceptual and non-mathematical. An online laboratory component is also part of the course.

Course requirements: Your knowledge of the material covered in the course objectives is evaluated using the following assignments and assessments:

Introduction: An introduction of yourself to the class through the "Introduce Yourself" discussion board

Discussion Boards: Discussion board posts and replies will focus on a certain question/statement concerning astronomy. Your post must fully respond to the discussion question/statement, be at least 100 words, and be made at least two days prior to the due date. Include a source for a stronger post and include any relevant images or illustrations. Before the discussion due date, make replies (at least 3) in response to posts by other students that address and further the discussion (don't just "agree and repeat"). Correct spelling, grammar, and punctuation are also taken into account.

Lab Activities: Students will participate in a variety of hands-on lab activities which make use of direct observation of astronomical objects or models.

Unit Exams: 3 unit exams are given online through MasteringAstronomy. The exams are designed and administered to promote mastery of course objectives addressed in each unit.

Project: A group project submitted as a PowerPoint presentation through Blackboard. More information will be provided in class.

Video Quizzes: Students will watch videos from the Crash Course Astronomy series. Each video is accompanied by a Quiz.

Method of Evaluation: Course averages will be calculated as follows:

Homework Problems	25 %
Lab Activities	20 %
Discussions	15 %
Group Project	10 %
Video Quizzes	15 %
Tests (3 exams)	15 %
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	100 % possible

Grades will be determined as follows:

90 – 100 = A
80 – 89 = B
70 – 79 = C
60 – 69 = D
0 – 59 = F

Assignments: All assignments and exams must be completed and submitted by specified deadlines. All deadlines appear in the course outline of the syllabus as well as the course schedule in Blackboard and it is the student's responsibility to ensure that all assignments have been submitted by the deadline.

Assignments that correspond to each chapter should be completed as listed below.

Note: This is an approximate schedule and is subject to minor changes.

Week	Course Material
Week 1	Chapter 14: Our Star
Week 2	Chapter 15: Surveying the Stars
Week 3	Chapter 16: Star Birth
Week 4	Chapter 17: Star Stuff
Week 5	Complete chapter 17
Week 6	**Exam 1, Chapters 14 – 17**
Week 7	Chapter 18: The Bizarre Stellar Graveyard
Week 8	Chapter 19: Our Galaxy
Week 9	Chapter 20: Galaxies and the Foundation of Modern Cosmology
Week 10	Chapter 21: Galaxy Evolution
Week 11	**Exam 2, Chapters 18 – 21**
Week 12	Chapter 22: The Birth of the Universe
Week 13	Chapter 23: Dark Matter, Dark Energy, and the Fate of the Universe
Week 14	Complete chapter 23
Week 15	Chapter 24: Life in the Universe
Week 16	**Exam 3, Chapters 22 – 24**

Attendance Policy: There are no on-campus meetings for this course. However, students are expected to regularly log into class and spend 4 to 6 hours each week reviewing new information, participating in discussions, completing assignments, taking exams, and/or other activities listed in the syllabus as scheduled by the instructor. Full participation is required to earn credit for graded activities.

Netiquette Expectations: Sensitive discussion topics may be brought up in this class, so please think carefully before responding. Keep these guidelines in mind:

- Standards of courtesy and respect must be maintained at all times in our online "classroom." Join in the discussion but remember that this is still a "classroom" setting and that respect and consideration are crucial for any intellectual discussion.
- Discussion areas are the place for intelligent and respectful airing of ideas. Name-calling and personal attacks are not permitted.
- Any violation of the standards of appropriate behavior online will be reported to the Dean of Students and appropriate disciplinary action will be taken by the college.

A good rule of thumb is that you should never post a response online that you would not be willing to say in person. Once the course begins, please use your Canvas communication tools to contact Professor Brooks.

Academic Dishonesty: The College's policy on academic honesty is published in the Student Handbook, and includes actions such as cheating, plagiarism and facilitating academic dishonesty. Please be aware that violations of this policy will result in a grade of "F" for the assignment or the course. If you have any questions about the policy or are unsure if something you're about to do counts as academic dishonesty, please arrange a discussion with your instructor.

Concerns/Questions: If you have any questions or concerns about any aspect of this course, please don't hesitate to contact me. If, after discussing your concern with me, you continue to have questions, please contact our science department chair Sheena Abernathy at (409)933-8330 or sabernathy@com.edu.

Core Objective Information:

Student Learner Outcome	Maps to Core Objective	Assessed via this Assignment
1. Demonstrate knowledge of the atom and starlight; the formation, structure, and evolution of our Sun and other stars; the interstellar medium, neutron stars, black holes, and active galaxies; the formation, structure, and evolution of our Milky Way Galaxy and other galaxies; the development and theories of modern cosmology and astrobiology.	Critical Thinking Skills: Students will demonstrate creative thinking, innovation, and the ability to analyze, evaluate, and synthesize information.	Unit Exams
2. Analyze and interpret data from observations to draw valid scientific conclusions and communicate these conclusions in a clear and articulate manner	Empirical and Quantitative Skills: Manipulate and analyze observable facts, evidence, or numerical data and arrive at an informed conclusion.	Observation Assignments
3. Scientifically justify stances on modern scientific controversies related to stars and galaxies.	Communication Skills: Develop, interpret, and express ideas through written communication.	Discussion Boards
4. Demonstrate the ability to work effectively with others to support and accomplish a shared goal while recognizing and respecting different viewpoints.	Teamwork: Students will demonstrate the ability to work effectively with others to support and accomplish a shared goal, while recognizing and respecting different viewpoints.	Group Project

Critical Thinking Skills will be assessed using an assignment that requires students to answer questions on exams that involve analyzing graphs of stellar spectra curves, luminosity versus spectral type plots, and H-R diagrams, and then choosing the correct conclusion to the question.

Empirical and Quantitative Skills will be assessed using an assignment that requires students to make observations of the Sun and sunspots, the H-R diagram, and galaxies, and then analyze data collected from observations to come to logical conclusions.

Communication Skills will be assessed using an assignment that requires students to make posts to discussion boards concerning unanswered scientific questions, human vision in infrared light versus visible light, the evolution of the Sun and Earth, the evolution of the Milky Way, and extraterrestrial intelligence, with supportive reasoning and documented evidence; make replies to other student posts on the above topics that further the discussion.

Teamwork Skills will be assessed using an assignment that requires students to work in groups on a project exploring various aspects of stars and galaxies.

Institutional Policies and Guidelines

Grade Appeal Process: Concerns about the accuracy of grades should first be discussed with the instructor. A request for a change of grade is a formal request and must be made within six months of the grade assignment. Directions for filing an appeal can be found in the student handbook.<https://build.com.edu/uploads/sitecontent/files/student-services/Student_Handbook_2019-2020v5.pdf. *An appeal will not be considered because of general dissatisfaction with a grade, penalty, or outcome of a course. Disagreement with the instructor's professional judgment of the quality of the student's work and performance is also not an admissible basis for a grade appeal.*
https://build.com.edu/uploads/sitecontent/files/student-services/Student_Handbook_2019-2020v5.pdf

Academic Success & Support Services: College of the Mainland is committed to providing students the necessary support and tools for success in their college careers. Support is offered through our Tutoring Services, Library, Counseling, and through Student Services. Please discuss any concerns with your faculty or an advisor.

ADA Statement: Any student with a documented disability needing academic accommodations is requested to contact Holly Bankston at 409-933-8520 or hbankston@com.edu. The Office of Services for Students with Disabilities is located in the Student Success Center.

Counseling Statement: Any student needing counseling services is requested to please contact Holly Bankston in the student success center at 409-933-8520 or hbankston@com.edu. Counseling services are available on campus in the student center for free and students can also email counseling@com.edu to set up their appointment. Appointments are strongly encouraged; however, some concerns may be addressed on a walk-in basis.

Textbook Purchasing Statement: A student attending College of the Mainland is not under any obligation to purchase a textbook from the college-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

Withdrawal Policy: Students may withdraw from this course for any reason prior to the last eligible day for a "W" grade. Before withdrawing students should speak with the instructor and consult an advisor. Students are permitted to withdraw only six times during their college career by state law. The last date to withdraw from the 1st 8-week session is March 2. The last date to withdraw from the 16-week session is April 25. The last date to withdraw for the 2nd 8-week session is May 4.

F_N Grading: The F_N grade is issued in cases of *failure due to a lack of attendance*, as determined by the instructor. The F_N grade may be issued for cases in which the student ceases or fails to attend class, submit assignments, or participate in required capacities, and for which the student has failed to withdraw. The issuing of the F_N grade is at the discretion of the instructor. The last date of attendance should be documented for submission of an F_N grade.

Early Alert Program: The Student Success Center at College of the Mainland has implemented an Early Alert Program because student success and retention are very important to us. I have been asked to refer students to the program throughout the semester if they are having difficulty completing assignments or have poor attendance. If you are referred to the Early Alert Program you will be contacted by someone in the Student Success Center who will schedule a meeting with you to see what assistance they can offer in order for you to meet your academic goals.

COVID-19 Statement: All students, faculty, and staff are expected to familiarize themselves with materials and information contained on the College of the Mainland's Coronavirus Information site at www.com.edu/coronavirus. In compliance with Governor Abbott's May 18 Executive Order, face coverings/masks will no longer be required on COM campus. Protocols and college signage are being updated. We will no longer enforce any COM protocol that requires face coverings. We continue to encourage all members of the COM community to distance when possible, use hygiene measures, and get vaccinated to protect against COVID-19. Please visit com.edu/coronavirus for future updates.