



Astr 1303.1HE: Stars & the Universe

COURSE SYLLABUS: Spring 2025

Class Location: Mon., Wed., and Fri. 11:00 AM - 11:50 AM, McFarland Science Building 122

INSTRUCTOR INFORMATION

Instructor: Dr. Kurtis A. Williams, Professor & Department Head

Preferred Pronouns: He/him/his

Office Location: Room 106A, McFarland Science Building

Student Hours:

Mon 1:30-2:30

Tues 10:30-11:30

Fri 2:30-3:30

By Appointment

Zoom meetings available by appointment

University Email Address: Kurtis.Williams@tamuc.edu

Preferred Form of Communication: **email**

Office Phone: (903) 886-5488

Communication Response Time: Before the end of the following business day

COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings

Textbook(s) Required

- 21st Century Astronomy, 7th Edition with Smartwork5 Access by Palen & Blumenthal
 - Publisher website: <https://wwnorton.com/books/9780393877021>
 - ISBN (Ebook+Smartwork+Student Site): 978-1-324-04670-7
- The Glass Universe by Dava Sobel
 - ISBN 978-0-14-311134-4
- The Disordered Cosmos by Chanda Prescod-Weinstein
 - ISBN 978-1-5417-2468-6

The syllabus/schedule are subject to change.

Software Required

- Subscription to Smartwork
 - **Important:** *You WILL need access to Smartwork.* New textbooks or ebooks come with Smartwork access. Used or rented books usually do NOT include access to Smartwork. As of August 2024, Smartwork is available as a stand-alone purchase of \$40+tax for 360 day access.

Optional Texts and/or Materials

- Ear buds / headphones for listening to online videos

Course Description

Hours: 3

A descriptive survey of astronomy with emphasis on modern developments in stellar and galactic astronomy and the role of physical science in the measurement and interpretation of astronomical data. Included are studies of structure and evolution of stars and galaxies and of current cosmological theories.

Astronomy is an ancient science with records dating back to the dawn of civilization. Despite this long history, it remains an exciting and vibrant area of ongoing study. In the coming years, astronomers may discover Earth-sized planets around other stars, see the first stars emerging from the cosmic dawn, and explore new physics in realms and laboratories that Earth-bound scientists can only dream of.

In this course, we will focus on studying stars and galaxies, as well as the natural laws and tools that astronomers use to study these distant objects. We'll begin by studying light, and telescopes. We'll then study the Sun as an example star and use it as a stepping stone to reach ever further into the Universe. Along the way we'll learn about the lives of stars, peer into the hearts of black holes, witness collisions of galaxies, and piece together vital clues pointing to the origins of the Universe.

One big topic we will not cover is our own Solar System, planetary systems around other stars, or extraterrestrial life. The Solar System (the 8 planets, asteroids, and comets) is covered in Astr 1304; other planetary systems and life is covered in Astr 120.

Student Learning Outcomes:

1. You will be able to explain the characteristics of stars and their life cycles.
2. You will be able to identify the classes of galaxies and their basic properties.
3. You will be able to state evidence supporting astronomers' explanations of the origin and fate of the Universe.
4. You will be able to evaluate statements about astronomy using the scientific method.

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COURSE REQUIREMENTS

Minimal Technical Skills Needed

You will need to be able to access myLEO Online (D2L), our learning management system, and be able to learn how to use it. You should also be able to read PDF documents. You should be able to create either Microsoft Word documents (.docx) or plain text files. You must be familiar with Internet usage and safe browsing. You need to be able to watch YouTube videos on a computer. You also need to be able to create and account on Smartwork and learn how to submit homework on that site (it's easy).

Instructional Methods

Participation

In order to give you some encouragement to attend class and keep up with the work, I will be often take attendance and assess your in-class learning using provided personal response systems ("clickers"). You may receive some extra credit points for correct answers to clicker questions.

Quasi-Quizzes

I will be assigning some reading, some video watching, and easy quizzes ("quasi-quizzes") based on the reading & videos due before the start of most classes. For quasi-quizzes, you will get a 75% score *just for finishing the quiz*. You will earn a higher score for each quiz question you answer correctly. You will earn no points if you don't finish the quasi-quiz before the start of class.

Exams

Short exams will be given multiple times during the semester. These exams will focus on material covered since the previous exam. There will also be a cumulative final exam, weighted separately. Most students do well enough on the exams that they get decent course grades, even if they bomb one exam.

For all exams, you may also bring a "cheat sheet" of 8.5x11 inch paper in size (or smaller) with whatever hand-written information you'd like. No other books, backpacks, calculators, computers, iPods, headsets, cell phones, PDAs, tricorders, etc. will be permitted. Using any aids other than your cheat sheet will result in you being removed from the exam and a grade of a zero.

If you are certified as needing special accommodations for examinations, please see me privately well before the exam with you letter of accommodation from the Student Disability Resources and Services office.

Homework, aka Smartwork

Smartwork is an online astronomy homework and tutoring tool. Its advantages are that Smartwork will give you instant feedback on whether you got a question right or wrong and provide you with hints and tools to better learn the material.

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I call Smartwork assignments “homework;” each unit in a course will have its own Smartwork assignment. This means you should expect to see roughly one Smartwork assignment each week. If you do the homework and find you still don’t understand something, you definitely want to ask me about that topic in office hours, Remind chat, or by email.

The grading policy for each Smartwork assignment is shown in each assignment. You may get multiple attempts to answer a question correctly; however, submitting an incorrect answer will cost you some credit. **Late homework is penalized 10% per day late. After 7 days, you will receive a zero on the assignment.**

The following are considered cheating and will not be tolerated: Directly copying text from a website or other printed source, obtaining copies of solutions to homework questions (whether from past students or other sources), directly copying another student’s work, etc. See the section on “Academic Integrity” below for full details.

Extra Credit:

Small amounts of extra credit may be awarded for answering in-class voting questions correctly.

The *only* other extra credit available in this course are the two options below. If you fully complete an option, you will earn 1.5% extra credit on your total calculated grade. You may earn extra credit for each activity only once (i.e., a maximum of 3% extra credit). There are no other options for extra credit. **All extra credit must be completed by April 23.**

Visit a planetarium show: The East Texas A&M Planetarium exhibits several different shows every Friday night at 7 pm and 8 pm. Tickets are \$5 for all ages. <http://www.tamuc.edu/planetarium/> has a current listing of shows. Family of any age is welcome to the planetarium shows; be sure to check on the age-appropriateness of shows (all are rated appropriate for all audiences, but typically the 7 pm show is aimed at children and the 8 pm show is more appropriate for teens and adults).

If you attend a show, tell the staff that you are a member of this class. The staff will have class rosters; you are responsible for making sure the staff mark down that you attended.

Visit the Commerce Observatory: You will have two opportunities for a visit to the Commerce Observatory (about 5 miles south of Commerce). On two evenings, we will have telescopes set up to look at planets and other interesting objects in the night sky. At each session, there will be an activity you must complete in order to earn extra credit. One visit is sufficient. Times and transportation options will be announced closer to the event.

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Student Responsibilities and Tips for Success in the Course

Students who do well in this course share most of the following common habits:

- Arriving a couple minutes early for class and not leaving until class is dismissed.
- Not using phones, tablets, or computers during class
- Checking MyLeo often for announcements and assignments
- Completing all assignments on time
- Asking for help and advice early in the semester
- Taking responsibility for their own grade.

GRADING

Grades in this course are based on the following scale:

A = 90%-100%

B = 80%-89%

C = 70%-79%

D = 60%-69%

F = 59% or Below

Grading is on an absolute scale with no competition. If you all earn an A, you all get an A. I may curve grades for specific assignments at my discretion; your percentage earned will never go down if I apply such a curve. Your current grades are available through the gradebook on D2L – look for “Total Calculated Grade.” The gradebook on Smartwork is not official.

Grades are based on a weighted system. The categories and weights are:

- Attendance: 10%
- Quasi-Quizzes: 10%
- Exams: 50%
 - Midterm Exams: 30% (10% each)
 - Final Exam: 20%
- Homework Assignments: 30%

Interaction with Instructor

Email:

I can be reached by email at Kurtis.Williams@tamuc.edu. It may take me up to 24 hours to send you a response. If you don't hear back from me in that time, please send another email or give me a call.

Notice: If you are having trouble with an assignment and email me within 24 hours of the deadline, I might not be able to get back to you before the assignment is due. Late penalties will not normally be waived in these cases.

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Course Announcements:

Announcements and important course updates will be posted on MyLeo Online, and I expect you will read those within a reasonable time frame. You can set up SMS or email notifications of new announcements, as well as many other course updates, through MyLeo Online. Click on your name at the top of the page and select “Notifications” from the resulting menu.

Student Hours:

Student hours are a times that I set aside in my schedule for interactions with you. These times are great for you to ask me questions about the course, about materials, ask for advice and study tips, or just talk about whatever.

If my scheduled hours don't work for you, or if you would prefer to meet and talk by Zoom, shoot me an email with a few suggested dates and times and we'll set it up.

Social Media:

Please don't follow me on other social media until after you've graduated. It's not all that exciting anyway.

Assignment and Due Date Policy

Links to assignments and due dates will be posted in the main page for each unit. Submission requirements for each assignment are given on each assignment's page.

Dropping the Course

You may drop this course by logging into your myLEO account and clicking on the hyperlink labeled 'Drop a class' from among the choices found under the myLEO section of the Web page.

Incompletes

I only offer incompletes in extraordinary circumstances. Any student interested in an incomplete should contact me as soon as possible after the situation arises, and should keep in mind that I am not required to give you an incomplete and so may not offer you the opportunity.

Technical Issues

Personal computer problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, an Internet cafe, or a coffee shop, etc.

Administrative Withdrawal

Although I have the right to drop you for excessive absences, I won't do so. You have a right to get an F if you decide to quit working but don't withdraw.

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Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

How to Get Started

myLEO Online Access Information

This course uses D2L (myLeo Online), the learning management system at East Texas A&M. All materials, assignments, and resources will be made available through this system. To access this course, go to: <http://myleoonline.tamuc.edu>. Log in with your myLEO account and password. Then click on the link <https://myleoonline.tamuc.edu/d2l/home/177821> to get to our course.

How This Course Is Organized

This course is organized by units. Some units will last just one week, but some units will cover multiple weeks. Some units cover one chapter in the text; some cover multiple chapters. You should listen in class and check the course page on MyLeo Online often to see what activities and assignments are coming due.

What Should You Do First?

After attending class and reading this syllabus, you should proceed to the course page on D2L and familiarize yourself with the resources. Next, order the course materials if you haven't yet. Finally, begin complete the activities and assignments under "Things to Do First." Due dates are specified on D2L.

COURSE OUTLINE / CALENDAR

The course will cover many of the topics outlined below.

1st Block: Tools of the Astronomer

- Unit 1: Thinking Like an Astronomer
- Unit 2: Light and Telescopes
- *Exam 1 – estimated date Feb 6*

2nd Block: Stars

- Unit 3: Measuring Stars
- Unit 4: Properties of Stars
- Unit 5: Our Star – the Sun
- *Exam 2 – estimated date March 7*
- Unit 6: Star Birth, Life, and Death
- Unit 7: Supernovae, Neutron Stars, and Black Holes
- *Exam 3 – estimated date April 4*

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3rd Block: Galaxies and the Universe

- Unit 8: Galaxies
- Unit 9: The Milky Way
- Unit 10: Cosmology

Important Class Dates:

- Jan 13: First Day of Class
- March 9-15: **No Classes (Spring Break)**
- March 28: Last Day to Drop Class
- Apr 25: Last Day for Planetarium Extra Credit
- Nov 28: **No Class (Thanksgiving)**
- May 2: **Last Day of Classes**

FINAL EXAM: Wednesday May 7th, 10:30 AM – 12:30 PM

TECHNOLOGY REQUIREMENTS

LMS

All course sections offered by East Texas A&M University have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm

Zoom Video Conferencing Tool

https://inside.tamuc.edu/campuslife/CampusServices/CITESupportCenter/Zoom_Account.aspx?source=universalmenu

ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu.

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary

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use of a computer at a friend's home, the local library, office service companies, Starbucks, an ETAMU campus open computer lab, etc.

COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please contact your Instructor.

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

<https://community.brightspace.com/support/s/contactsupport>

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures/Policies

Academic integrity

A major goal of this and most every university course is for you to learn and appreciate subject material. Academic dishonesty (“cheating”) actively prevents you from achieving this goal. Academic dishonesty is taken seriously by the University and by me, and **will not be tolerated.** (See the ETAMU Code of Student Conduct and the TAMU-C Procedures A 13.04, 13.12, 13.31, and 13.32.)

This conduct is not only considered wrong in this course and at this University, but also in the real world. Engaging in these activities will get you fired from a job and prevent you from getting another job.

Unethical student conduct includes:

- **Unauthorized use of generative AI.** Generative AI tools should not be used for any purpose in this class unless you are explicitly told to use them. It is generally a bad idea anyway, because the training sets that are used by generative AI are full of inaccurate scientific information. Generative AI is meant to produce text or images that simulate English speech, and they are quite good at this. They have little or no ability at fact checking.
- **Plagiarism,** or copying the words of others with the intent of making it look like your own. Whether you use someone else’s phrase word for word, or whether you try and change a few words, or even if you just borrow someone else’s original idea and don’t give them credit, that’s unethical. Use your own words whenever possible, give credit to wherever you got an idea, and put direct quotes inside quotation marks.
- **Cheating** involves trying to trick me or others into thinking you did work that you really didn’t do, or into thinking you know what you really don’t know. This can

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include stealing exams, changing your answers on a graded exam or assignment and claiming it was graded wrongly, putting your name on someone else's homework, and so on.

- **Searching the Internet for homework solutions and entering answers you find.** Searching the Internet for help on a topic is okay. For example, suppose a question asks, "Describe the life cycle of a star that has the same mass as the sun." Typing that phrase into Google and cutting and pasting the text in the answer box is considered cheating. Typing "star life cycles" into Google, reading a few web pages, and summarizing the information in your own words is not cheating.
- **Borrowing a previous student's homework, exams, or solution sets.** "Borrowing" includes looking at someone's submitted homework, screen shots, stealing returned homeworks, and so on.
- **Collusion** is working with another person to cheat. This can include copying someone else's answers to an exam or assignment, doing work for another student, buying or otherwise obtaining homework/exam solutions from any source online or off-line, or any other instance of multiple people engaging in some form of cheating or dishonesty. Working with other students on an assignment is fine as long as everyone contributes and each student does their own work.
- **Any other activity that, to a reasonable person, looks wrong.** If you have any doubt whatsoever whether a certain action is considered dishonest, please ask me *before* engaging in the activity. There is no need to be embarrassed about asking, and I won't penalize you for asking! In this class, if you follow the maxim "it's easier to beg forgiveness than to ask permission", don't expect forgiveness to be forthcoming.

If you engage in academic dishonesty during any graded activity, you will receive no credit for that activity. More than one instance of dishonesty by a student will result in automatic failure of the course and referral of the student for disciplinary action.

For further information, search the East Texas A&M website for "academic integrity policy".

D2L provides me with tools that check for common forms of online cheating and collusion. These include, but aren't limited to: time stamps, location stamps, and automated comparison of essay answers. I will use these tools.

Sexual Harassment and Violence

Violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc.

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If you or someone you know is a victim of harassment, stalking, domestic violence, sexual assault, or related crimes, has been harassed or assaulted, here are some resources for you:

24/7 Resources

- National Domestic Awareness Hotline: 1-800-799-SAFE (7223)
- National Sexual Assault Hotline: 1-800-656-4673
- National Suicide Prevention Lifeline: 988

Campus Resources

- **Call 911 in emergency situations**
- If you or someone you know has been impacted and needs support, email: VictimSupport@tamuc.edu (monitored Monday-Friday, 8am-5pm)
- Victim Advocacy and Support: <https://www.tamuc.edu/student-advocacy-support/victim-support-services/>
- How to Help and Report: <https://www.tamuc.edu/student-advocacy-support/victim-support-services/>
- How to Report Concerns About a Fellow Student: https://cm.maxient.com/reportingform.php?TAMUCommerce&layout_id=20
- University Title IX Compliance Office: <https://www.tamuc.edu/titleix/>
- University Title IX Contact: Amanda Berry, 903-886-5991, titleix@tamuc.edu
- University Police Department Sexual Assault pages: <https://www.tamuc.edu/university-police-department/crime-prevention/>
- University Counseling Center: <https://www.tamuc.edu/counseling-center/>
- Campus police email: upd@tamuc.edu

External resources:

Crisis center of Northeast Texas: <http://www.cnetx.org>

Know your IX: <http://knowyourix.org>

End rape on campus: <http://endrapeoncampus.org>

Clery Center for Security on Campus: <http://clerycenter.org>

Not Alone: <http://changingourcampus.org/about-us/not-alone/>

University Specific Procedures

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the [Student Guidebook](#).

<http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

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Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum:

<https://www.britannica.com/topic/netiquette>

ETAMU Attendance

For more information about the attendance policy please visit the [Attendance](#) webpage and [Procedures 13.99.99.R0.01](#):

<http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf>

Academic Integrity

Students at East Texas A&M University are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

[Undergraduate Academic Dishonesty 13.99.99.R0.03](#)

[Undergraduate Student Academic Dishonesty Form](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/documents/13.99.99.R0.03UndergraduateStudentAcademicDishonestyForm.pdf>

[Graduate Student Academic Dishonesty Form](#)

<http://www.tamuc.edu/academics/graduateschool/faculty/GraduateStudentAcademicDishonestyFormold.pdf>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

Students with Disabilities-- ADA Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

East Texas A&M University

Velma K. Waters Library Rm 162

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: studentdisabilityservices@tamuc.edu

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Website: [Office of Student Disability Resources and Services](#)

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

Nondiscrimination Notice

East Texas A&M University will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in East Texas A&M University buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and East Texas A&M Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Web url:

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all East Texas A&M campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

East Texas A&M Supports Students' Mental Health

The Counseling Center at East Texas A&M, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.tamuc.edu/counsel

AI use policy

East Texas A&M University acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or

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suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

13.99.99.R0.03 Undergraduate Academic Dishonesty

13.99.99.R0.10 Graduate Student Academic Dishonesty