



Astr 1303.01E: Stars and the Universe

COURSE SYLLABUS: SPRING 2019

INSTRUCTOR INFORMATION

Instructor: Dr. Kurtis A. Williams, Associate Professor

Office Location: Room 145, McFarland Science Building

Office Hours:

Science 145: M 10:30-11:30

T 10:00-11:30

Science 111: Th 2:00-3:00

Office Phone: (903) 886-5516

University Email Address: Kurtis.Williams@tamuc.edu

Preferred Form of Communication: **email or Remind chat**

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

Preferred Pronouns: He/his

COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings

Textbook(s) Required

21st Century Astronomy, 5th Edition with Smartwork5 Access by Kay, Palen & Blumenthal

Publisher website: <http://books.wwnorton.com/books/webad.aspx?id=4294994682>

Software Required

- Subscription to Smartwork5
- Registration to Remind (Free)

Optional Texts and/or Materials

Headphones for listening to online videos

Important: You *WILL* need access to Smartwork5. Used or rented usually do NOT include access to Smartwork5. As of 12/19/2018, Smartwork5 is offering a free 360 day beta test, but this could change at any moment, in which case Smartwork5 access could cost an additional \$30 or more + tax.

The syllabus/schedule are subject to change.

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 (Should be measurable; observable; use action verbs)

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

COURSE REQUIREMENTS

Minimal Technical Skills Needed

You will need to be able to access myLEO Online, the new 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.

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How To Get Started

myLEO Online Access Information

This course uses myLEO Online, the new learning management system at A&M-Commerce. 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 to Spring 2019 – Stars and the Universe 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 MyLeo Online and familiarize yourself with the resources. Next, order the course materials if you haven't yet. Finally, begin complete the activities and assignments under Unit 1. Due dates are specified on MyLeo Online.

Instructional Methods

Attendance and Participation

Research into how people learn shows that the best learning comes from interaction. Simply reading material and listening to me drone on won't help you learn anything useful. To learn, you must take the material, work with it, and make it your own. I therefore will require you to participate actively in the course.

At times, the classwork in this course may be significantly different than those in many courses you have taken. Each class will consist of short lectures focusing on important concepts interspersed with various interactive activities. Your participation in these are key to your success in understanding the material.

For these reasons, attendance and class participation are mandatory and will count toward your final grade. I realize that most of you are not comfortable speaking up in front of a large group of people, so class participation will come in a variety of forms, including interactive polling, small group discussions, and short in-class assignments. These in-class activities are graded primarily on whether you make an effort to participate. There is no penalty if you get an answer wrong, but correct answers may receive a small amount of extra credit.

Attendance and participation grading policy:

The following types of absences are excused if appropriate documentation is provided:

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- Participation in a required/authorized university activity;
- Verified illness;
- Death in a student's immediate family;
- Obligation of a student at legal proceedings in fulfilling responsibility as a citizen

Additional absences may be valid at my discretion. All documentation for excused absences must be submitted via the appropriate link on D2L.

You are still responsible for completing all assignments on time, even if your absence is excused. You should complete any in-class activities within a reasonable time frame, and you are responsible for all material we cover in class while you are gone.

Merely maintaining a corporeal presence in the classroom does not you credit for attendance and participation. If you do not participate in in-class activities, or if you are not paying attention in class, or if you are disruptive to class, then you will not earn attendance credit for the day.

Exams

Multiple bi-weekly exams will be given during the semester. These exams will focus on material covered since the previous exam. Your lowest exam grade will be dropped during grade calculations. There will also be a cumulative final exam during the scheduled final exam slot; the final exam cannot be dropped.

Makeup exams may only be taken under extenuating circumstances. I will require documentation of the reason for the absence, and I reserve the right to reject any excuse. do everything in your power to be present for an exam. There is no makeup exam possible for the final exam.

For the bi-weekly exam, you may also bring a single notecard (3x5 inches) 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 index card 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 Smartwork5

Smartwork5 is an online astronomy homework and tutoring tool. Its advantages are that Smartwork5 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.

I call Smartwork5 assignments "homework;" each unit in a course will have its own

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Smartwork5 assignment. This means you should expect to see roughly one Smartwork5 assignments 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 Smartwork5 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 up to 7 days beyond the due date. After 7 days, you will receive a zero on the assignment. Any work not completed by the start of the final exam will also receive a zero.

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.

Reading Quizzes

Short in-class reading quizzes will be held at the start of the class period whenever reading is assigned. Missed quizzes cannot be made up.

Extra Credit:

The *only* extra credit available in this course are the two options below. If you fully complete an option, you will earn 1% extra credit on your total calculated grade. You may earn extra credit for each activity only once. There are no other options for extra credit. **All extra credit must be completed and turned in by 11:59pm on Friday, April 26.**

Visit a planetarium show: The A&M-Commerce Planetarium exhibits several different shows every Friday night at 7pm and 8pm. Tickets are \$4 for children and university students (with ID), \$4.50 for senior citizens, and \$5 for adults. <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 7pm show is aimed at children and the 8pm show at 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 (dates to be announced), 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

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event.

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

Final grades in this course will be 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 myLEO Online – look for “Total Calculated Grade.” The gradebook on Smartwork5 is not official.

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

Classroom Participation: 10%

Exams: 50%

Bi-weekly Exams: 30%

Final Exam: 20%

Homework Assignments: 30%

Reading Quizzes: 10%

TECHNOLOGY REQUIREMENTS

LMS

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

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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

YouSeeU Virtual Classroom Requirements:

<https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements>

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 use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC 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>

Interaction with Instructor Statement

Email:

I can be reached by email at Kurtis.Williams@tamuc.edu. Please put "Stars & Galaxies" in your email subject header. It may take me up to 24 hours to send you a response (48 hours on the weekend or holidays). If you don't hear back from me in that time, please send another email or give me a call.

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Texts and Email Announcements:

I have set up an SMS (text and/or email) account for brief messages, like reminders of due dates, updates on class events, and other crucial messages. I expect you to make use of this service.

To register for text (SMS) updates, text “@astr1303” (without quotes) to 81010 or (754) 333-5306. The service is free, but any standard messaging fees charged by your mobile provider will apply. To get automated email copies of any texts (like if you don’t have texting or don’t want to pay for it), send a blank email to:

astr1303@mail.remind.com. The service is also private: nobody (including myself) will see your phone number or email, and I am the only person who can send you messages.

Office Hours: Office hours are available in both real-world and virtual formats. Office hours are times that I set aside when I promise to be in my office so that you can come by and talk to me. During real-world office hours, you can ask questions about the course material, ask about homework, see your current grade, or ask other questions about the class or astronomy in general. During virtual office hours, you’ll be free to ask questions when we get to that time.

It’s important to realize that office hours are *not* just for students who are having problems in the course. If you are uncertain about anything, please visit, email, phone or drop into virtual hours before your small problems grow into big ones. If you are worried about what might be on the test, stop in. If you are curious about astronomy jobs and research opportunities, come by.

Office hours work best if you have your textbook, notes, and homework sets with you.

If you want to talk but cannot come during office hours, please contact me by email in order to set up an individual appointment. By setting an appointment, you both guarantee that I will be in my office (or online) and that I will have plenty of time to talk with you. You may feel free to stop by my office any time my door is open, but if you do not have an appointment and if it is not my scheduled office hours, please understand if I’m not free to talk at that instant.

Social Media:

Please don’t follow me on social media until after you’ve graduated. You’ll be disappointed anyway.

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

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achieving this goal. Academic dishonesty is taken seriously by the University and by me, and **will not be tolerated.** (See the TAMU-C 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:

- **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 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 is considered cheating.** 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 is considered cheating.** "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

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result in automatic failure of the course and referral of the student for disciplinary action.

For further information, search the A&M-Commerce website for “academic integrity policy”.

Smartwork5 and myLEO Online provide 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.

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.

Assignment Policy and Due Dates

Assignments and due dates will be posted in the MyLeo Online course calendar for each assignment. Submission requirements for each assignment will also be given on that 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.

Harassment Policy

Title IX makes it clear that 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. If you or someone you know has been harassed or assaulted, you can find the appropriate resources here:

University Title IX Contact: Nathan Perry, 903-886-5025,
<mailto:Nathan.Perry@tamuc.edu>

University resource webpages:

SAFE Team: <http://www.tamuc.edu/CampusLife/safe-team>

<http://www.tamuc.edu/facultyStaffServices/humanResources/title-ix/resources.aspx>

<http://www.tamuc.edu/campuslife/campusServices/universityPoliceDepartment/crimePrevention/sexualAssault.aspx>

University Counseling Center: 903-886-5145,
<http://www.tamuc.edu/campusLife/campusServices/counselingCenter/default.aspx>

Campus police: <mailto:upd@tamuc.edu>, call 911 in emergency situations

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External resources:

Crisis center of NorthEast Texas: <http://www.ccnetx.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: <https://www.notalone.gov>

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. You should also know that you only have access to a myLEO Online course for two weeks following the final day of term.

Late Work

Late assignments are penalized 10% for each day late (including weekends). After 7 days, late assignments will receive a zero. Exams may only be taken late by arrangement with the instructor, otherwise missed exams will receive a zero. The instructor has final discretion on whether to give a make-up exam. All work must be finished by the end of the day on the last day of classes.

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, many restaurants, Interstate Rest Areas, etc.

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.

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).

<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>

TAMUC Attendance

For more information about the attendance policy please visit the [Attendance](#) webpage and [Procedure 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 Texas A&M University-Commerce 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](#)

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

[Graduate Student Academic Dishonesty 13.99.99.R0.10](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.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

Texas A&M University-Commerce

Gee Library- Room 162

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

Fax (903) 468-8148

Email: studentdisabilityservices@tamuc.edu

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

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

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Nondiscrimination Notice

Texas A&M University-Commerce 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 Texas A&M University-Commerce 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 A&M-Commerce 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 A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

COURSE OUTLINE / CALENDAR

The course will cover many of the topics outlined below. The dates below may change, so pay attention to announcements for final due dates.

1st Block: Tools of the Astronomer

- Unit 1: Introductions (Jan 14)
- Unit 2: Thinking Like an Astronomer (Jan 16-Jan 23)
- Unit 3: Electromagnetic Radiation (Jan 25-Jan 30)
- Unit 4: Size, Temperature and Motion (Feb 1-Feb 8)
- Unit 5: Telescopes (Feb 11-Feb 15)

2nd Block: Stars

- Unit 6: Taking the Measure of Stars (Feb 18-Mar 1)
- Unit 7: Our Star – The Sun (Mar 4-Mar 8)
- Unit 8: Stellar Evolution (Mar 11-Mar 27)

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- *Spring Break: March 18-March 22*
- Unit 9: Stellar Death (Mar 29-Apr 8)

3rd Block: Galaxies and the Universe

- Unit 10: The Milky Way and its Neighbors (Apr 10-Apr 19)
- Unit 11: The Expanding Universe (Apr 22-Apr 26)
- Unit 12: The Big Bang (Apr 29-May 3)

All extra credit must be completed by Friday April 26.

FINAL EXAM: FRIDAY MAY 10TH, 8AM-10AM

Observatory Visits:

- TBA