



Astr 489 Observational Astronomy

COURSE SYLLABUS: FALL 2025

Class Location: Mon. 6:00 PM – 10:30 PM, McFarland Science Building 107
Weather permitting, we will travel to the observatory after an initial meeting.

INSTRUCTOR INFORMATION

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

Preferred Pronouns: He/him/his

Office Location: Room 106A, McFarland Science Building

Student Hours:

Tues 1:00-2:30

Wed 1:30-2:30

Fri 2:30-3:30

By Appointment

Zoom meetings available by appointment

University Email Address: Kurtis.Williams@etamu.edu

Preferred Form of Communication: **email or Slack**

Office Phone: (903) 886-5488

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

COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings

Required Books:

- Observational Astronomy, 2nd edition, by Birney, Gonzalez, and Oesper.

Other Materials

- Access to a scientific calculator for homework and exams
- Red LED flashlight (one will be provided for each student)
- Observing Notebook (one will be provided for each student)

The syllabus/schedule are subject to change.

Course Description

Hours: 4

Astronomical observation techniques and analysis of data including practical experience with modern telescopes and imaging devices, computer-based reduction and analysis, and interpretation of astronomical data.

This course is intended for students who wish to learn more about basic astronomical observations, telescopes, digital photography, etc. The students entering the class should already have a basic understanding of how telescopes work and the basic motions of the sky including the positions of planets, phases of the Moon, etc. This class is designed to meet one of the requirements for an astronomy minor.

The classes will meet in room 107 of the science building at 6 pm every Monday night. The first hour will be a lecture then weather permitting the rest of the class will be spent at the observatory.

Student Learning Outcomes

1. Students will be able to describe the motion of objects in the sky from a given latitude.
2. Students will be able to setup and use the telescopes at the observatory.
3. Students will learn the basic types of telescopes.
4. Students will learn the different kinds of deep sky objects.
5. Students will be able to reduce and analyze digital astronomical images.

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.

How to Get Started

myLEO Online Access Information

This course uses myLEO Online, the new learning management system at ETAMU. 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 Fall 2025 – Observational Astronomy to get to our course.

The syllabus/schedule are subject to change.

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. Get signed up for the Slack channel if you wish. Finally, be ready to start the first day of class!

Slack:

I have set up a Slack workspace and channel for this class; Slack and similar tools are widely used in business, so it is a smart idea to get used to it. I will perma-ban anyone who misuses the channel.

Instructional Methods

Attendance

Since this class only meets once per week attendance is critical. There will be **no makeup classes** and if you miss a class, you will be unable to obtain the material from that day or do the activity performed that day. Excused absences for justified reasons will be entertained at the instructor's discretion.

Observing Notebook

The notebook is a scientific journal kept by each student in which they keep track of activities done throughout the semester. In this notebook each student will keep a record of all assignments, photographs, observations, and any other information pertinent to the class.

The notebook should include materials for every class meeting or activity. A separate page in the notebook should be created for each night observation. During these observations the weather conditions should be recorded, this includes temperature, cloud cover, wind, humidity, and quality of seeing. Along with the weather, each observation through a telescope should be noted with a brief description of the item being observed, the telescope and eyepiece combination, and any filters or other optical aids.

For indoor activities a record should be kept of what was done during the class period, including any sheets from activities or handouts.

Exams

We will have two exams – a midterm and a final exam. The date of the midterm may vary depending on the weather. The final exam will be held on the Monday of finals week at 6pm, or we may do a final project instead of the exam if weather permits.

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.

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Homework

Homework will be assigned many weeks. Homework will be distributed online; due dates will be announced when it is distributed. Each assignment carries the same weight. Late homeworks are penalized 20% for each day late. After 5 days, any missing homework will receive a zero.

The following are considered cheating and will not be tolerated: Searching for answers on the internet, using artificial intelligence to complete answers (unless an assignment explicitly asks you to do so), 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.

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 lectures.
- Checking myLeo Online 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."

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

- Attendance: 10%
- Notebook: 40%
- Homework Assignments: 10%
- Midterm Exam: 20%
- Final Exam: 20%

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COURSE OUTLINE / CALENDAR

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

- **25 Aug:** Introductions and the Celestial Sphere (no observatory visit)
- **1 Sept: NO CLASS (LABOR DAY)**
- **8 Sept:** Coordinate Systems (1st observatory visit, weather permitting)
 - *All subsequent weeks we will visit the observatory, weather permitting*
- **15 Sept:** Time
- **22 Sept:** Magnitudes, Charts and Catalogs
- **29 Sept:** Light
- **6 Oct:** Telescopes
- **13 Oct:** Exam 1 (weather dependent)
- **20 Oct:** Atmospheric Effects
 - *Depending on the weather history, around this date we will start using the large telescopes remotely from campus*
- **27 Oct:** Detectors and Filters
- **3 Nov:** Calibrations
- **10 Nov:** Photometry
- **17 Nov:** Spectroscopy
- **24 Nov:** Variable Stars
- **1 Dec:** Making Pretty Pictures

The final exam will be Monday Dec 8th, 6:00 PM – 8:00 PM.

TECHNOLOGY REQUIREMENTS

D2L (a.k.a. Brightspace, MyLEO Online, LMS)

All course sections offered by East Texas A&M University have a corresponding course shell in the myLEO Online Learning Management System (LMS). The link below gives technical requirements for accessing the LMS

LMS Browser Support:

<https://community.d2l.com/brightspace/kb/articles/5663-browser-support>

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@etamu.edu.

The syllabus/schedule are subject to change.

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@etamu.edu. Please put "Observational Astronomy" 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.

Slack:

I have set up a Slack channel for this class; watch your email for an invitation. I will perma-ban anyone who misuses it.

Student Hours:

Student 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 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.

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.

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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.

Assignment and Due Date Policy

Assignments and due dates will be posted in the main page for each week. 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 Portal (<https://leoportal.tamuc.edu>) and clicking on the hyperlink labeled 'Register from Classes' from among the choices found under the Student Resources tab. For more information, see this video: https://www.youtube.com/watch?v=NU5q_58o3uA.

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 have the final decision on whether or not to grant your request.

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.

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.

The syllabus/schedule are subject to change.

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 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.** 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.
- **Unauthorized use of AI content generators.** This includes using ChatGPT or similar tools to create text or content, unless an assignment actually requests you

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to do so. Using such tools to correct grammar, spelling, or style is acceptable as long as you admit it and submit a link to the log of all prompts and responses.

- **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 ETAMU 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.

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.

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.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

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](https://www.etamu.edu/student-guidebook/):
<https://www.etamu.edu/student-guidebook/>

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>

Mental Health and Counseling

The Counseling Center at ETAMU, 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

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services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.etamu.edu/counseling-center

ETAMU Attendance

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

<https://inside.etamu.edu/admissions/registrar/generalInformation/attendance.aspx>

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](#)

<https://inside.etamu.edu/aboutus/policiesproceduresstandardsstatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03.pdf>

Artificial Intelligence

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 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

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

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learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Services

East Texas A&M University

Velma K. Waters Library 162

Phone (903) 886-5150

Fax (903) 468-8148

Email: StudentDisabilityServices@etamu.edu

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

<https://www.etamu.edu/student-disability-services/>

Nondiscrimination Notice

East Texas A&M University will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination, sexual harassment, and retaliation against any individual on the basis of race, color, religion, sex, national origin, age, disability, genetic information, veteran status, sexual orientation, gender identity, or any other legally prohibited basis. Such discrimination, harassment, and retaliation are violations of A&M System policy and will not be tolerated. 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 ETAMU 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:

<https://inside.etamu.edu/aboutus/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

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

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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.

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: CARE@etamu.edu (monitored Monday-Friday, 8am-5pm)
- Victim Advocacy and Support: <https://www.etamu.edu/student-advocacy-support/victim-support-services/>
- How to Help and Report: <https://www.etamu.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.etamu.edu/titleix/>
- University Title IX Contact: Amanda Berry, 903-886-5991, TitleIX@etamu.edu
- University Police Department Sexual Assault pages: <https://www.etamu.edu/university-police-department/crime-prevention/>
- University Counseling Center: <https://www.etamu.edu/counseling-center/>
- Campus police email: upd@etamu.edu

External resources:

Crisis center of Northeast Texas: <http://www.cnetx.org>
Know your IX: <https://www.advocatesforyouth.org/campaigns/know-your-ix/>
End rape on campus: <https://endrapeoncampus.org/>
Clery Center for Security on Campus: <https://clerycenter.org/>
National Sexual Assault Online Hotline: <https://hotline.rainn.org/online>

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