



Astr 1304.01E: Astronomy of the Solar System

COURSE SYLLABUS: Spring 2024

Class Location: MWF 2:00 PM - 2:50 PM, McFarland Science Building 127

INSTRUCTOR INFORMATION

Instructor: Dr. Kurtis A. Williams, Associate Professor

Office Location: Room 106A, McFarland Science Building

Student Hours:

MW 11:00-Noon

TTh 1:30-2:30

By Appointment (<http://kurtiswilliams.youcanbook.me>)

Virtual Office Hours:

By Appointment (<http://kurtiswilliams.youcanbook.me>)

University Email Address: Kurtis.Williams@tamuc.edu

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

Office Phone: (903) 886-5488

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

Preferred Pronouns: He/him/his

COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings

Textbook(s) Required

21st Century Astronomy, 7th Edition with Smartwork5 Access by Palen & Blumenthal

Publisher website: <https://wnnorton.com/books/9780393877021>

ISBN (Ebook+Smartwork+Student Site): 978-1-324-04670-7

Software Required

- Subscription to Smartwork5
- Remind App (Free)

The syllabus/schedule are subject to change.

Optional Texts and/or Materials

- Headphones for listening to online videos
- Zoom Video Conferencing Tool

Important: *You WILL need access to Smartwork5.* New textbooks or ebooks come with Smartwork5 access. Used or rented books usually do NOT include access to Smartwork5. As of December 2023, Smartwork5 is available as a stand-alone purchase of \$40+tax for 360 day access.

Course Description

Hours: 3

A descriptive survey of the solar system specifically including the sun, planets and their satellites, comets, and other members of the solar system. The course will also examine the history of astronomy and the development of scientific tools for understanding the nature of the solar system.

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 the Sun and its accompanying collection of planets, comets, asteroids, and other debris. We'll begin by studying the night sky and the history of astronomy. From the insights we gain in these topics, we will step out and study our Solar System. Along the way we will find ice volcanoes, temperatures ranging from near absolute zero to hot enough to melt lead, and potential places for life.

This course will not cover stars, cosmology, or extraterrestrial life. Stars and cosmology are covered in Astr 1303; extraterrestrial life is covered in Astr 120.

Student Learning Outcomes

1. You will be able to explain how astronomers determined the true size, layout, and forces at play in our Solar System.
2. You will be able to compare the properties of different objects in our Solar System.
3. You will be able to restate hypotheses concerning the origins of our Solar System.
4. You will be able to identify major bodies in the Solar System from pictures.

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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 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 2024 Solar System](#) 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.

Remind Text Messaging

I have set up a Remind account for this class. This service lets you get announcements from Dr. Williams and send him messages. I urge you to subscribe to this service. You have 3 options to join the class on Remind:

1. Get push notifications on your smartphone (iPhone or Android) by going to: <http://rmd.at/astr1304>
2. For text notifications, or if you do not have a smartphone, text @astr1304 to 81010. If you have trouble with 81010, text @astr1304 to (754) 353-0907.
3. For email notifications only, go to <http://rmd.at/astr1304/> on a desktop computer and sign up for email notifications.

Remind is free, though standard text message or data rates apply. Remind is private; only Dr. Williams will see your messages, and nobody other than the Remind service will know your phone number. Remind collects information from you in order to provide our service. This includes your name, your school, your email, and your phone number.

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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 76% score *just for finishing the quiz*. You will earn a higher score for each quiz question you answer correctly. You will earn no points for any of these assignments completed after the start of class.

Exams

Short exams will be given three 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 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 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

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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. Generative AI such as Chat GPT must not be used unless a specific question clearly states otherwise. See the section on "Academic Integrity" below for full details.

Extra Credit:

Small amounts of extra credit may be awarded for answering reading quiz questions and 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. There are no other options for extra credit. **All extra credit must be completed by 11:59pm on Friday, April 26.**

Visit a planetarium show: The A&M-Commerce 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 7pm show is aimed at children and the 8pm 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 (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 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

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- 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:

Quasi-Quizzes: 10%
Participation: 10%
Exams: 45%
 Midterm Exams: 25% (about 8% each)
 Final Exam: 20%
Homework Assignments: 35%

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

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

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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 "Solar System" 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.

Text Messaging:

I can be reached via SMS (texting) through the Remind service / app. See [Remind Text Messaging](#) above for details.

Student Hours: Student hours are available in both face-to-face and virtual formats. Student 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, no appointment needed. During student 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 student hours are *not* just for students who are having problems in the course. If you are uncertain about anything, please visit, email, phone

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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.

Student hours work best if you have your notes and a laptop or tablet from which we can access your textbook and homework.

If you want to talk but cannot come during office hours, please go to <http://kurtiswilliams.youcanbook.me> to schedule an appointment; this scheduling app will allow you to choose if you wish to speak to me face-to-face or by Zoom, and it allows you to reschedule or cancel appointments 24/7.

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 student 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 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

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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.
 - The use of generative AI, such as Chat GPT, is only permitted when an assignment explicitly asks you to use it.
- **Borrowing another person’s work** is considered cheating. “Borrowing” includes looking at someone’s submitted homework, Smartwork accounts, graded exams, screen shots, etc. with or without their permission. “Another person” includes not only present and past students, but also anyone else who might have access to solutions.
- **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 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 (called “administrative withdrawal), I won’t do so. You have a right to get an F if you decide to quit working but don’t drop the course.

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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.

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.

Late Work

Late assignments are penalized 10% per day if turned in after the deadline. 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>

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>

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

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

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Website: Office of Student Disability Resources and Services
<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

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.

AI use policy

[Draft 2, May 25, 2023]

Texas A&M University-Commerce 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.

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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

A&M-Commerce Supports Students' Mental Health

The Counseling Center at A&M-Commerce, 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/counseling-center

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: 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?TAMUCcommerce&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/>

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- 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/>

COURSE OUTLINE / CALENDAR

The course will cover many of the topics outlined below.

1st Block: Basic Tools, Observations, and History of Astronomy

- Unit 1: Introductions
- Unit 2: Motions of the Earth and the Moon
- *Exam 1*
- Unit 3: Motions of Astronomical Bodies
- Unit 4: Gravity
- *Exam 2*

2nd Block: Solar System Beginnings and Rocky Planets

- Unit 5: The Origin and Characteristics of Planetary Systems
- Unit 6: Terrestrial Planets and the Moon
- *Exam 3*
- Unit 7: Atmospheres of Terrestrial Planets

3rd Block: The Outer Solar System

- Unit 8: Giant Planets
- *Exam 4*
- Unit 9: Moons and Rings
- Unit 10: Dwarf Planets and Debris

Important Class Dates:

- Jan 10: First Day of Class
- Jan 15: **No Class** (MLK Day)
- March 11-15: **No Classes** (Spring Break)
- April 26: Last day to complete any extra credit
- April 30: **Last Day of Class**
- May 1-3: Final Exam Study Days
- May 6: **Final Exam**

FINAL EXAM: Monday May 6th, 1:15 – 3:15

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