

AST 1033

Exploration of the Solar System

Instructor: Dr. Dina Drozdov

Lecture Time: MWF 10:00 - 10:50am, FLN 2.02.10

Office Hours: Tuesday, 10:00 - 11:30am and Wednesday, 2:00 - 3:30pm, or by appointment.

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Course Description

Astronomy 1033 is an introductory Astronomy course. We will cover introductory astronomy topics and show their prevalence in everyday life. We will explore the changing night sky and the connection between the night sky and the calendar. We will discuss the Moon, all of the planets in our solar system, including our own, and all of the major and minor bodies that fill the space between planets. Theories as to the creation of the Moon and the entire solar system will be addressed. Finally, we will discuss planets outside of our solar system and the possibility of life on those planets. Mathematics is key to our understanding of Astronomy, which is applied Physics. The mathematics needed for calculations in these topics will be explicitly discussed in class in numerous worked out examples. Lectures will be accompanied by conceptual questions, demonstrations, small group work exercises, and an observing session. AST 1033 is a Q-rated course: This course is designated as a Q-course and satisfies UTSA's Quantitative Scholarship requirement. Enhancing quantitative reasoning and critical thinking skills helps students understand and evaluate data, assess risks and benefits, and make informed decisions.

General Education Learning Outcomes

1. Students apply physical/natural principles to analyze and solve problems
2. Students explain how Astronomy impacts society
3. Develop critical thinking and problem solving skills
4. Differentiate between terrestrial planets and gas giants.
5. Identify objects in the night sky and understand our view of the Universe.
6. Distinguish between minor bodies and know their location in solar system.

7. Learn the formation of the solar system and how the objects have evolved over time to become what we see today.

Prerequisites

1. MAT 1023 or MAT 1073.
2. Working knowledge of algebra and basic trigonometry. The understanding of fundamental mathematics is important, and it is expected that the students are familiar with the metric system, unit conversions, linear equations, quadratic equations, linear systems of equations, trigonometry, exponents, and logarithms. Math is required for proficiency of this course.

Required Materials

1. Bennett, Donahue, Schneider, Voit, *Cosmic Perspective*, 8th edition.
 - a. You may purchase just the Mastering Astronomy access code, which includes an eBook version of the text. A physical textbook is not required.
2. A Mastering Astronomy access code for the online homework system. A textbook bundled with an access code for the online homework system can be purchased from the the UTSA bookstore.
3. Calculator capable of computing exponents (**not on phone or computer**)

Grades

Your final grade will be calculated from the following weighted elements:

Reading Quizzes	10%
In-Class Quizzes	15%
Homework	15%
Exam 1	10%
Exam 2	15%
Exam 3	15%
Final Exam	20%

Your final letter grade will be determined by the following scale:

A+	97-100	C	74-76
A	94-96	C-	70-73
A-	90-93	D+	67-69
B+	87-89	D	64-66
B	84-86	D-	60-63
B-	80-83	F	0-59
C+	77-79		

Please note that I do not curve final grades, and you are responsible for keeping track of your grade progress. I offer very few bonus opportunities throughout the semester. I do not offer extra work at the end of the semester to boost low grades. Use a planner to keep up with deadlines.

Homework

All homework assignments are based on the problems from your textbook and will be submitted via Mastering Astronomy (www.pearson.com/mastering). You must purchase Mastering Astronomy immediately as the first homework will be due within a week of the course start. Due dates are firm (see lecture schedule), and late work will not be accepted. If you join the course late, you are still responsible for completing the homework by the deadline. The problems will be a mixture of qualitative and quantitative questions based around the material covered in lecture. Therefore, it is imperative you attend lecture and take accurate notes of all worked-out examples. Homework deadlines will be stated in class and are also visible on Mastering Astronomy. It is your responsibility to follow this schedule.

To register for Astronomy 1033 Section 001:

1. Go to www.pearson.com/mastering.
2. Under Register, select Student.
 - a. You will need your UTSA email address, an access code (can be found in your textbook or purchased separately), and the course ID.

- b. **Enter your first and last name exactly as it appears on Blackboard. Capitalize only the first letter of your first and last name.** Do not use nicknames or shorten your name. Failure to comply with these instructions may result in grade deduction.
3. Enter your instructor's course ID: **drozdov67723**, and Continue.
4. If requested during the registration process, make sure to click on the correct textbook icon (*The Cosmic Perspective* 8th edition).
5. Select an access option. Enter the access code that came with your textbook or that you purchased separately from the bookstore. Buy access using a credit card or PayPal directly from the website. You can choose temporary access if you are considering dropping the course. This temporary access lasts for the first two weeks of the course.
6. From the You're Done! page, select Go To My Courses.
7. Select the course name ASTR 1033 01 to start your work.

Mastering Astronomy is an online platform that allows multiple attempts for the same problem, and your final grade will be based on your final submission. I will upload worked-out solutions to any quantitative questions after the due date.

During the first two weeks of class, you can access Mastering Astronomy for free. However, after the grace period, your account is automatically deleted, and you are literally deactivated from my roster. Thus, if a homework is due, you will receive a score of a 0. In order to continue using Mastering Astronomy, you must purchase an access code. The access code is free with the new textbook bought online or from the UTSA bookstore. If you have any problems with the registration for the online homework system or submissions, please let me know as soon as possible. Note, you may simply purchase an access code directly through the website, and an eBook will be available to you. **You do not need a physical textbook for the course. Mastering Astronomy is required for this course.** If you do not purchase access to this platform, you will not be allowed to continue in my course. I do not accept handwritten homework solutions.

Since the homework is via an online platform, I highly recommend you create a homework notebook that shows all of your work in completing each problem. This will be of extreme benefit to you in preparing for examinations, and it will help me if you come to me with questions about your homework during office hours or if you email me with a question (you can simply take a picture of your work and upload it to the email). Start your homework early, and if you feel you are struggling with the material, do similar problems in the textbook, and review the in-class and textbook examples. Extensions are not typically granted on

homework assignments except for extreme cases. Please let me know of any situations that arise throughout the semester as early as possible. **Extensions asked within 24 hours of the submission deadline will not be accepted for any reason. The lowest homework grade is dropped.**

Quizzes

During lectures, there will be several unannounced quizzes on material presented in lecture. These quizzes can happen at any time during lecture. These quizzes should take 10 minutes at most and are worth 10 points. They will be on the content either presented in class that day or from the previous day. These quizzes serve as an attendance record, and not attending class will negatively affect your grade both in understanding the material and in your quiz grade. Some quizzes may be take-home or collaborative. These will be announced in lecture. *No make-up opportunities will be given without prior consultation.* **The lowest quiz grade will be dropped at the end of the semester.**

Excused absences include illness (only with proper documentation sent before the missed class), military duties, funeral, and university functions. Documentation must be sent (email is sufficient) prior to the missed class. If documentation is not attached or if the deadline passes, you will forfeit any of the points you missed in that class. Doctor appointments should be scheduled outside of class time. Only in the case of an emergency will that be excused.

In addition, weekly reading quizzes will be given via Blackboard. These require you to read an article or watch a video on a topic related to that week's lecture content and answering a few multiple choice or true/false questions. These quizzes will be worth a total of 10 points. Make-up opportunities or extensions will not be given. Reading quizzes will always be due on Friday at 2pm. You may not enter the reading quiz portal after the due date, and partial completion of the quizzes will be graded accordingly. Should any technical difficulties arise, please email me prior to the deadline. **The lowest reading quiz will be dropped at the end of the semester.**

Exams

This course will have three in-class closed-book exams. No notes or other aids may be used. Calculations will be required on these exams, and the equations and constants will all be provided for you. Please bring a working calculator to

each exam. *There will be no make-up opportunities for the exams!* Special arrangement documentation is due prior to an exam (date will be announced in class). Exams not taken in class must be completed prior to the in-class exam. To help prepare for the exams, we will have in-class study sessions the lecture before each exam, so come with questions prepared. Review all solved calculations during lectures, lecture notes, and homeworks in preparation for the exams. I will provide study guides for all examinations and solutions once they have been returned. The exams will be similar to homework and will feature a mixture of multiple choice questions, short answer, calculations, true/false, matching or diagrams. You may not wear a hat during an exam.

Instructor Drop

This course uses instructor-initiated drops for students who exceed the absence and/or missed assignment limit. Therefore, up to the last day for students to withdraw from an individual course (**October 23**), you will be dropped for exceeding the following absence and/or missed assignment limits: **four missed in-class quizzes or four missed homework assignments**. Attendance in the course will be taken and recorded by online and in-class activity. It is the student's responsibility to document their attendance in this course by taking in-class quizzes, completing in-class exercises, and participating in class.

Students will receive at least one courtesy warning when approaching the absence/missed assignment limit. Notification will be sent via ASAP to the student's preferred email address. A subsequent absence or missed assignment will result in being dropped from the course. Notification of being dropped will also be sent via ASAP to the student's preferred email address. This drop does not affect enrollment in other courses

After consultation with the instructor, you may appeal the drop using the Course Reinstatement Petition available on Blackboard, at <https://studentforms.it.utsa.edu/>, and on the Registrar's website <http://www.utsa.edu/registrar/forms.html>. You must appeal the drop within 3 business days from the date the notification was sent. An appeal will be upheld and the student reinstated into the course only when the student provides compelling evidence that the instructor's attendance or missed assignment record is in error. Once an appeal is filed the student will be allowed to attend the course and maintain Blackboard Learn access until the appeal is adjudicated. The student must be informed of the decision within three business days of submitting the appeal. Students will be sent email notice to their preferred email.

Observing Session

Since this class is entitled 'Exploration of the Solar System,' it is imperative you experience Astronomy firsthand! Thus, we will have an observing session at some point in the semester to immerse ourselves into the wonder that is Astronomy. These sessions are highly dependent on the weather, but I will give plenty of notice beforehand. Please note they may be canceled last minute, depending on sudden clouds. If you have difficulty attending an evening session, you must contact me. Before attending, please read sections 2.1 and 4.1-4.5 of the text. Attendance to this session is mandatory unless a documented excuse is given to me prior to the session.

Class Policy

1. There is to be no sleeping in the classroom.
2. If you miss class, you are responsible for all missed material and getting lecture notes from a classmate. This includes any announcements and due dates. There are no make-ups for examinations. You are also responsible for contacting me if you wish to have a make-up opportunity. **If you do not provide documentation prior to the missed class, it will not be an excused absence, and you will forfeit all points. You must send documentation (excuse letter or similar evidence) immediately when you contact me. An email is not sufficient as documentation.**
3. If you miss either four quizzes or four homework assignments, you will be dropped from the course using the instructor initiated drop.
4. Cell phones, headsets, iPads and any other electronic devices that may disrupt the class must be turned off and put away prior to class unless you have a job requiring them to be on for safety (firefighter, EMT, etc.). You may not use headphones in class.
5. Computer use is not allowed in lecture. Should you use your computer regularly for note taking purposes, you must discuss this with me. I will have a list of students with granted computer access, and you must show ID to be added to this list. **If I find that you are using your computer to complete the homework in class and see a timestamp of a submission during class time (even if you are not in class), your computer privileges will be revoked for the rest of the semester. If it occurs a second time, you will not receive credit for those problems.**

6. Refrain from talking out loud and/or inappropriately.
7. You must write legibly on all items turned into me. If I cannot read your writing, it will be marked wrong. I do not mark off for spelling.
8. We will use cards in class for active learning exercises. You are required to pick up a set of cards at the start of class, return them at the end of class, and actively participate during class.
9. Arrive on time to class to avoid disrupting the learning process. If you do arrive late, please pick up your cards.
10. Do not leave trash behind (e.g., cups, containers, wrappers, etc.)
11. Recording my lectures is allowed only with my written consent.
12. You may not work on homework during lecture.
13. If you have an excused absence, it is your responsibility to maintain email communication for any make-up opportunity. For quizzes, you may only be given 24 hours notice. For examinations, the make-up must occur prior to your absence. Failure to comply will result in a score of a zero.
14. After the semester, please dispose of all of the solutions. Do not pass information to other students who have yet to take the course.
15. The following language is required if I am to invoke my right to designate my office as an exclusion zone. Pursuant to HOP 9.48, Carrying of Concealed Handguns on Campus, my private office, AET 3.344, is a designated exclusion zone. As set out in Section 30.06, Penal Code (trespass by license holder with a concealed handgun), a person licensed to carry a Concealed Handgun under Subchapter H, Chapter 411 Government Code (handgun licensing law), may not enter this property/office with a concealed handgun. De conformidad con HOP 9.48, Llevar Armas de Fuego Encubiertas en el Campus, mi oficina privada, AET 3.344, es una zona designada de exclusin. Conforme a la seccin 30.06 del cdigo penal (trespasar portando armas de fuego) personas con licencia bajo del sub-capitulo H, capitulo 411, codigo de gobierno (ley de portar armas), no deben entrar a esta propiedad portando un arma de fuego.

See also “Classroom Code of Conduct” of the Student Handbook.
(<http://catalog.utsa.edu/informationbulletin/appendices/studentcodeofconduct/>).

Support

Should you need extra assistance in understanding the class content or help with homework and preparing for examinations, please make use of the following:

1. Come to my office hours! I will gladly work through examples and help

you with any issues you might have. If you cannot make my office hours, please email me with your questions (best times to reach me are M-F 8:00am-5:00pm). I usually respond pretty quickly to requests, but please do not wait until the last minute to ask questions. You must use your UTSA email account for any communication with me. I will also be in my office and happy to speak with anyone with quick questions before or after class.

2. We will have review sessions before each exam, and these are your opportunities to clear up any confusion on the material and to see more worked out examples.
3. UTSA offers many other resources to aid you, including tutoring services and reserving supplemental materials. The Tomás Rivera Center offers a comprehensive academic support program available to all students. For more information, please contact the Tutoring Center or Tutoring Services at: TRCTutoring@utsa.edu . The TRC is located at: **Main Campus** | JPL 2.01.12 | 210-458-6783 | **Downtown Campus** | DB 2.114 | 210-458-2838.
4. Counseling Services provides confidential, professional services to help meet the personal and developmental needs of currently-enrolled students. Services include individual therapy for personal and educational concerns, couples/relationship counseling, and group therapy on topics such as college adaptation, relationship concerns, sexual orientation, depression and anxiety. Counseling Services also screens for possible learning disabilities and has limited psychiatric services. Visit Counseling Services at <http://utsa.edu/counsel/> or call (210) 458-4140 (Main Campus) or (210) 458-2930 (Downtown Campus).

Special Needs

If you have any documented special needs or disabilities and require special arrangements through Student Disability Services to be made for any aspect of this course, please let me know at the beginning of the semester or whenever a situation presents itself. Feel free to speak to me about your needs during office hours or by appointment. In addition, please let me know if you have any conflicts with the examination schedule. To receive accommodations, you must self-identify and give me appropriate documentation prior to any examination with sufficient time to accommodate your needs. Last minute requests cannot be granted. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.utsa.edu/disability or by calling Student Disability Services at (210) 458-4157 (Main) or (210) 458-2945 (Downtown).

Plagiarism and Cheating

Every student is expected to be familiar with the University's stance regarding scholastic dishonesty.

Any form of cheating or academic dishonesty will not be tolerated in this course. Violations of the UTSA Honor Code (including cheating or attempted cheating) will be referred to the Office of Student Affairs for adjudication. Examinations and quizzes are to be completed individually (unless explicitly stated otherwise), and any evidence of cheating will result in a zero. Phones are not to be used during examinations for looking up answers and will result in a zero. Phones may not be on the table during any in-class quiz or test. You may not bring any cheat sheets for the exams, and all exams are closed-book. Homework may be completed collaboratively, but all of the final answers must be written in your own words and cannot be simply copied from your partner or the text. The Student Code of Conduct is Section B of the Appendices in the Student Information Bulletin. Scholastic Dishonesty is listed in the Student Code of Conduct under Sec. 203: <http://utsa.edu/infoguide/appendices/b.html#sd>.

The University of Texas at San Antonio is a community of scholars, where integrity, excellence, inclusiveness, respect, collaboration, and innovation are fostered (see The Roadrunner Creed).

The following link will take you to a source of University information concerning policies and services regarding disabilities, dishonesty, counseling, and tutoring.

<http://provost.utsa.edu/syllabus.asp>

Tentative Lecture Schedule

We will be covering Chapters 1-3, S1, 4-6, 7-13, and S3 in *Cosmic Perspective*. Select sections in certain chapters will be covered, so please follow along in the lecture slides. Sections not covered in lecture will not be tested.

Date	Lecture Schedule
8/22	Introduction, Chapter 1
8/24	Chapter 1
8/27	Chapter 2
8/29	Chapter 2
8/31	Chapter 2 - Chapter 3
9/3	NO CLASS - Labor Day
9/5	Chapter 3
9/7	Chapter 3
9/10	Chapter S1
9/12	Chapter S1
9/14	Exam 1 Review Session
9/17	Exam 1: Chapters 1 - 3, S1
9/19	Chapter 4
9/21	Chapter 4
9/24	Chapter 4 - Chapter 5
9/26	Chapter 5
9/28	Chapter 5
10/1	Chapter 5 - Chapter 6
10/3	Chapter 6
10/5	Chapter 6
10/8	Chapter S3
10/10	Chapter S3
10/12	Exam 2 Review Session
10/15	Exam 2: Chapters 4 - 6, S3

10/17	Chapter 7
10/19	Chapter 7 - Chapter 8
10/22	Chapter 8
10/24	Chapter 8
10/26	Chapter 9
10/29	Chapter 9
10/31	Chapter 9 - Chapter 10
11/2	Chapter 10
11/5	Chapter 10
11/7	Chapter 10 - Chapter 11
11/9	Chapter 11
11/12	Chapter 11
11/14	Chapter 12
11/16	Chapter 12
11/19	Chapter 11 - Chapter 12
11/21	Chapter 12
11/23	NO CLASS - Turkey Day
11/26	Chapter 13
11/28	Chapter 13
11/30	Exam 3 Review Session
12/3	Exam 3: Chapters 7 - 13
12/5	Final Review Session
12/12	Final Exam 7:00 - 9:30am