SYLLABUS

Spring 2017

Online Course: ASTR 1345, SECTION 003 (INTRODUCTORY ASTRONOMY I)
NIGHT SKY AND SOLAR SYSTEM

This syllabus provides a general plan for the course; if there are any deviations, you will be notified.

Instructor's Information

Name: Dr. Nilakshi Veerabathina (My on-campus students address me as Dr. Nila; pronounced as Neela)

Telephone: 682-999-8571 (Call only during business hours, and please do not leave any voice messages. The phone is not well equipped to receive the voice messages.)

Email: Use the mail option available on the Blackboard. I will be checking my e-mails until about 5 pm every working day and only occasionally in the evenings and over the weekends. I will try to get back to you within 24 hours.

Mailbox: 19059

Office Hours: Since this course is online, you will most easily find me by email. If you are on campus, I would encourage you to see me. I am located in room 120c Science Hall. My office hours are MW 10-11 am and TTh 12-12:30 pm. You might like to check with me before coming though. I'll also be available other times by appointment.

Course Duration

Spring 2017 full semester: From Tuesday, 01/17/17 till almost the mid of May 2017

Required On-Campus Meetings

None. The course will be available online 24x7 from the start of the semester through the end. You are not required to come on campus on any certain day or time for the lecture part of this course.

Live Webinars

Depending on the need, there will be a two to three synchronous live webinars in the course via Blackboard Collaborate. The live webinars will help you to see and hear your professor. The attendance in Webinars is encouraged though not mandatory. If you are not able to attend the webinars, you will have the option of watching the recordings that will be posted on the Blackboard after the live webinar. The first webinar will be on **Thursday, January 19 th at 3:30 pm CT**. The other webinars will be spread over the duration of semester. You will receive instructions and more information about the webinars via e-mail and announcement as we get closer to each webinar.

Prerequisites

While there are no formal prerequisites, a familiarity with high school mathematics is needed.

Description and Goals of the Course

This is the first of a two-semester, lecture plus laboratory course on introductory astronomy. The main combined goal of these two courses is to find the answer to two fundamental questions – "who we are in cosmic perspective?" and "where are we in the Universe". This first course in the series is about the Solar System and emphasis on celestial motions, phases of moon, eclipses, history and evolution of astronomy, gravity, electromagnetic radiation, telescopes, and physical properties of the planets, asteroids, meteoroids, comets, and the discovery of extrasolar planets. (***Note:*** *This course focuses on the study of Solar System. The second course ASTR1346 takes you beyond the Solar System and focuses on the study of stars, galaxies, and the universe on a large scale. I thought to mention it here because usually students ask what the difference is between the ASTR1345 and ASTR1346 courses. I would encourage you to take ASTR1346 course next semester if you need another science course to fulfill your science requirement.*)

Learning Objectives

On the completion of this course students should be able to

- demonstrate the methods and the advantages of advanced technology that astronomers use to obtain information about celestial objects.
- describe the nature of scientific research and process of science in the fields of Physics and Astronomy.
- discuss the historical development of our understanding of the Heliocentric Solar System from Aristarchus to Galileo to modern times.
- apply an understanding of the orbital and rotational motion of the Earth, Moon and planets to predict and observe the changes in the sky that result from these motions.
- explain the basic concepts of Physics, such as gravity, nature of light as a wave and as a photon, laws of motion (Kepler's as well as Newton's) etc.
- identify the components of the electromagnetic spectrum and demonstrate the need of observing outside the visible range and outside the Earth's atmosphere.
- discuss the properties of the other planets, their moons and other objects in our solar system as well as in extra solar systems in comparison to the planet Earth.
- effectively communicate in written form with other students via discussion forums.
- apply Astronomy and basic Physics knowledge to analyze new situations.
- prepare to study other subjects that require on a prior knowledge of Astronomy and basic Physics

Required Course Material

Text Book: Astronomy Today Volume 1: The Solar System with Modified MasteringAstronomy®, 8th Edition

By Chaisson and McMillan, (Published by Addison-Wesley)
Package ISBN-13: 9780134544243

The book is available from the UT Arlington Bookstore http://uta.bkstr.com Or directly from the publisher's website http://www.mypearsonstore.com/bookstore/astronomy-today-volume- 1-the-solar-system-0321909712 (Click on "Packaged with" to select the Modified Mastering Astronomy access code with the printed book.)

Note: If you are comfortable in using an e-book, **you do not need to purchase the printed version of the book mentioned above.** At the Pearson's website (via Blackboard), you also have an option to purchase the e-text with Modified Mastering Astronomy access code, which will be cheaper than the regular hard cover book. On the other hand if you prefer a printed book and happen to purchase a used book, or borrow a book, you will still need the online Mastering Astronomy access code. In any case, **you need the Mastering Astronomy access code for the course in order to do the** weekly chapter tutorials and quizzes. (The access code and the e-book are usually valid for two semesters. So the same access code would be good if you happen to take ASTR1346 online course next semester.)

Follow the Mastering Astronomy registration steps given next. It will take you to the option of purchasing the instant access code with or without the e-text.

Registration to Mastering Astronomy

Here is a link to a video that guides you on how to register to Mastering Astronomy through Blackboard. When prompted for the first and last name, give the same name as you have on UT Arlington's roster. You have to do all these steps only once.

http://screencast.com/t/dPVlaG2U

The following video guides you how to get the 14 days free *Temporary Access* to the Mastering Astronomy.

http://screencast.com/t/IPFUgYip

If you rather prefer the **written instructions**, these are given below step by step.

Make sure you have these two things:

Email address: UT Arlington e-mail address is preferred
Access code or credit card: The required access code comes either with your book or by itself at your bookstore or online from mypearsonstore.com. Alternatively, you can buy instant access with a credit card or PayPal account during registration.

Next, register!

1. Click on the **Pearson Mastering** option on the left panel of Blackboard**.** Choose the Mastering product (**Mastering Astronomy**) to begin the registration process.

2. Sign in with your Pearson account:

a. If this is the first time you have taken a Pearson MyLab or Mastering course linked to your learning management system, you will be prompted to login with your Pearson account. If you have a Pearson account, enter the username and password. If you don't have a Pearson account, select the option to Create a new Pearson account. Once complete, move to step #4.
b. If you have previously taken a Pearson MyLab or Mastering course linked to Blackboard you will not be prompted to login and you will be asked directly to enter your access code (see step #4)

3. When prompted for access, click the **Access Code** button if you purchased a package with an access code from the bookstore, OR purchase instant access now by clicking on the purchase options under the Use a Credit Card or PayPal section. You may also select Temporary Access without payment for 14 days.

4. You are now registered! Click on the "Go to your course" button to access your Mastering Astronomy assignments.

If needed, 24/7 Pearson technical support priority line for UT Arlington is **855-875-1797.** You might also find the following article about Blackboard integration useful.
http://247pearsoned.custhelp.com/app/answers/detail/a_id/11853

Exams and Grading

The grading will include the following elements of the course.

	Course Element	Weight
1.	Chapters' Quizzes on Mastering Astronomy	5 %
2.	Chapters' Tutorials on Mastering Astronomy	10 %
3.	Biweekly Discussions on Blackboard	10 %
4.	Tests (best 2 of 3)	30 %
5.	Final Exam	20 %
6.	Lab Work	25 %
	Total	100%

The grading scale would be as follows.

90-100: A
80-89: B
70-79: C
60-69: D
Less than 60: F (Fail)

Description of the Elements of the Course

1. Chapters Reading Quizzes on Mastering Astronomy – 5% course grade

There will be in all 15 quizzes from a total of 15 Chapters that are mentioned in the course syllabus. These quizzes are available on the Mastering Astronomy website for which you will need to log on using your Mastering Astronomy access code. Each quiz will typically consist of

10 Multiple Choice Questions (MCQs). Quizzes will be untimed but they should be finished before the due date for that particular chapter. Each Quiz can either be completed in a single sitting or it can be done in parts. For each question on the quiz there is an option of "Show Answer". If you use that option, you can see the answer, but get no credit for that particular question. All quizzes will be easy once you have read the book and slides thoroughly. These reading quizzes are open book quizzes.

No credit will be given if responses to the quiz are given after the due date. Students can use the quiz after the due date for practice, but not for credit. Out of the total number of quizzes taken during the course of the class, the ***one with the lowest score will be dropped*** when counting its contribution to the final grade. Quizzes will contribute 5% towards the final grade in the course.

Note: "Introduction to Mastering Astronomy" tutorial that you will see on the website is to get familiarized with the system. That is the first tutorial you need to do. It will not be graded.

2. Chapters Tutorials (homework) on Mastering Astronomy – 10% course grade

There will be tutorial sections based on each chapter. So, for a total of 15 chapters that will be taught in the course there will be roughly 15 tutorials. These tutorials are available on the Mastering Astronomy website that you can go directly through Blackboard. Tutorials will be untimed, but should be completed before the due date. You can use the option of "hints" that is given for the tutorials to find the answers to the questions; no penalty is given for using the hints. If you give the right answer to the question/s given under the "hints" you get bonus points for that tutorial. You can finish the tutorial in one sitting or in parts before the due date. These tutorials are open book.

No credit will be given for work submitted after the due date. As with the reading quizzes, for tutorials the ***one with the lowest score will be dropped*** when calculating the final grade. Tutorials contribute 10% of the final grade.

3. Discussions on Blackboard – 10% course grade

The discussions are biweekly. There will be a total of about 7 discussion topics. ***To get the full credit for the discussion you must submit your own response and also reply to at least one other student's post.*** Students need to submit their original response for the discussion topic by the end (Sunday) of first week. This way other students will get sufficient time to read your post and respond accordingly the following week before the due date. The maximum point for each discussion is 100. Up to 60 points will be given for your own posting based on its quality, and 40 points for your critical and thoughtful comment to at least one posting. *While you only need to reply to one person, I strongly encourage you to participate more by replying to more posts. It will help deepen your thoughts on the discussion topic, and also increase your chances of getting a high grade in the discussion.*

Suggestions and tips: Your responses to other students must be well thought and researched that further enhances the quality of the on-going discussion and make others think critically. Just saying "me too", "I agree", "It's awesome", "I like it", "I never thought of it before" etc. is not enough for the grading point of view. You can supplement these phrases with more examples and ideas to get the credit. You can explain in scientific terms WHY do you agree or not agree with the other student's posting. It would be useful if you imagine that you are having a

thoughtful conversation and critically discussing the topic with a person sitting next to you.

No credit will be given to responses posted after the deadline. The discussions contribute a total of 10% to the final grade.

4. Tests (Best 2 of 3) on Blackboard– 30 % course grade

A Total of 3 tests will be held in the course. These tests will be available on Blackboard. In calculating the contribution of tests towards the final grade, the best two out of three will be used. If you are not able to take a test for some reason, that will be your dropped test. Since I drop the lowest test grade, ***no makeup tests will be given***. Tests contribute the highest percentage towards the final grade. This will show exactly what you are learning in the course.

Each test will be ***timed***. You will have ***50 minutes*** to record your responses for each test. Each test will have ***50 Multiple Choice Questions*** (MCQs). All tests will be closed book. Once the test is started you have to complete it fully, you can't leave it halfway and come back later. So, please make sure that you have suitable time and no other activities scheduled when you take the test. Also before taking the test, make sure your computer and internet connection are working properly. The test can only be taken once. The exact dates, timings etc. are mentioned in the "Schedule" section of the course. Mark your calendar in advance for the tests dates.

The coverage of the syllabus in each test is as follows,
Test 1 – Chapters 1, 2, 3, 4
Test 2 – Chapters 5, 6, 7, 8
Test3 – Chapters 9, 10, 11, 12

For each test, 50 questions will be distributed almost equally on all chapters listed above for that test. The two best scored tests from all three taken will contribute 30% to the final grade.

5. Final Exam - 20% course grade

You have to take the Final Exam on Blackboard. The Final Exam will have a total of ***100 multiple choice Questions*** to be answered. Out of the 100 questions, about 45 questions will be from chapters 13, 14 and 15. The rest of the 55 questions will be from chapters 1 to 12. The Final Exam will be ***timed.*** You will have a total of **100 minutes** to answer all the questions. The Final exam can only be taken once and it will be closed book. Once the exam is started you have to complete it fully, you can't leave it halfway and come back later. So, please make sure that you have suitable time and no other activities scheduled when you take the Final Exam. Also before taking the final exam, make sure your computer and internet connection are working properly. The Final Exam will contribute 20% to the final grade.

Note: The tests and the final are closed book exams. In addition, you will be required to use the Respondus Lockdown Browser to take the tests. I will send more information about it as we get closer to Test 1.

6. Lab Work – 25% course grade

As this is a lab science course, *if you **do not obtain a passing grade (60%)** in your lab, you **cannot** pass the course,* regardless of how well you do on the lecture part of the course.

Lab for this course is also online. If you haven't already, you need to register separately in the Astronomy online lab (**ASTR1345-023**). Some of you may prefer to take the face-to-face lab for this course and are probably already enrolled in different lab sections. In either case, your lab instructor will provide me your lab grades at the end of the semester. Lab grades will contribute 25% to the final grade.

Netiquettes (stands for Net or Online Etiquettes)

At UT Arlington we emphasize and try to maintain the highest ethical standards in personal and professional communication. Treat your online class the same way you would the face-to-face class. Written yelling, shouting or demeaning of classmates' postings and ideas will NOT be tolerated. Try to be polite when communicating with the instructor or the classmates. Use of racial or ethnic slurs, flaming, or derogatory statements are grounds for disciplinary actions.

Academic Dishonesty/ Plagiarism

Even though this is an online course, you are just as bound to the university's academic dishonesty policy as the students in face-to-face on-campus courses.

It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University.

"Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts." (Regents' Rules and Regulations, Part One, Chapter VI, Section 3, Subsection 3.2, Subdivision 3.22)

E-Culture Policy

The University of Texas at Arlington has adopted the University email address as an official means of communication with students. Through the use of email, UT-Arlington is able to provide students with relevant and timely information, designed to facilitate student success. In particular, important information concerning registration, financial aid, payment of bills, and graduation may be sent to students through email.

All students are assigned an email account and information about activating and using it is available at www.uta.edu/email. New students (first semester at UTA) are able to activate their email account 24 hours after registering for courses. There is no additional charge to students for using this account, and it remains active as long as a student is enrolled at UT-Arlington.
Students are responsible for checking their email regularly.

Drop Policy

Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class

or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance**. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (http://wweb.uta.edu/ses/fao).

Student Feedback Survey

At the end of each term, students enrolled in classes categorized as lecture, seminar, or laboratory will be asked to complete an online Student Feedback Survey (SFS) about the course and how it was taught. Instructions on how to access the SFS system will be sent directly to students through MavMail approximately 10 days before the end of the term. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback data is required by state law; student participation in the SFS program is voluntary.

Student Support Services Available

The University of Texas at Arlington supports a variety of student success programs to help you connect with the University and achieve academic success. These programs include learning assistance, developmental education, advising and mentoring, admission and transition, and federally funded programs. Students requiring assistance academically, personally, or socially should contact the Office of Student Success Programs at 817-272-6107 for more information and appropriate referrals.

Disability Accommodations

UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including *The Americans with Disabilities Act (ADA), The Americans with Disabilities Amendments Act (ADAAA),* and *Section 504 of the Rehabilitation Act.* All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of a letter certified by the **Office for Students with Disabilities (OSD).** Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:
The Office for Students with Disabilities, (OSD)www.uta.edu/disability or calling 817-272-3364.
Counseling and Psychological Services, (CAPS) www.uta.edu/caps/ or calling 817-272-3671.

Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Campus Carry

Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals

to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit http://www.uta.edu/news/info/campus-carry/

Non-Discrimination Policy

The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit uta.edu/eos.

Title IX

The University of Texas at Arlington ("University") is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated. *For information regarding Title IX, visit* www.uta.edu/titleIX or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or jmhood@uta.edu.

The IDEAS Center

IDEAS center at 2nd Floor of Central Library offers **free** tutoring to all students with a focus on transfer students, sophomores, veterans, and others undergoing a transition to UT Arlington. To schedule an appointment with a peer tutor or mentor email IDEAS@uta.edu or call (817) 272-6593.

The English Writing Center (411LIBR)

The Writing Center Offers free tutoring in 20-, 40-, or 60-minute face-to-face and online sessions to all UTA students on any phase of their UTA coursework. Their hours are 9 am to 8 pm Mon.-Thurs., 9 am-3 pm Fri. and Noon-6 pm Sat. and Sun. Register and make appointments online at http://uta.mywconline.com. Classroom Visits, workshops, and specialized services for graduate students are also available. Please see www.uta.edu/owl for detailed information on all our programs and services.

The Library's 2nd floor Academic Plaza offers students a central hub of support services, including IDEAS Center, University Advising Services, Transfer UTA and various college/school advising hours. Please check the link for more information http://library.uta.edu/academic-plaza

Schedule

The "**Schedule**" below contains the overall outline of the course, the timelines and due dates for each element of the course. Week is defined from **Monday to Sunday**. Carefully check into the schedule and mark your calendar accordingly.

Note: The same schedule is also provided as a separate one page pdf file that you might like to print out and paste on some visible place in your room to keep the continuous track of your course work.

Week	Dates	Reading Assignments from the Text Book: Astronomy Today, Vol. 1, 8e	Discussion Topics to Participate in the biweekly Discussion Forums on Black Board	Chapter Tutorials on Mastering Astronomy	Chapter Quizzes on Mastering Astronomy	Due By
1-2	Jan 17 to Jan 29	Chap 1-2	Discussion #0: Introductions (Not graded) Discussion #1 (How Big! How Small!	Chap 1 Tutorial Chap 2 Tutorial	Chap 1 Quiz Chap 2 Quiz	Sunday Jan29th, 11 pm Central time
3-4	Jan 30 to Feb 12	Chap 3-4	Discussion #2 (Astronomy Picture of Day (APOD))	Chap 3-4 Tutorial	Chap 3 Quiz Chap 4 Quiz	Sunday, Feb 12th, 11 pm(CT)
Test 1 (Timed: 50 minutes); Chap 1-4; (It can be taken only once.) Available from Friday, Feb 10th, 12 am to Monday, Feb 13th, 11 pm (CT)						
5-6	Feb 13 to Feb 26	Chap 5-6	Discussion #3	Chap 5 Tutorial Chap 6 Tutorial	Chap 5 Quiz Chap 6 Quiz	Sunday, Feb 26th, 11 pm (CT)
7-8	Feb 27 to Mar 12	Chap 7-8	Discussion #4	Chap 7 Tutorial Chap 8 Tutorial	Chap 7 Quiz Chap 8 Quiz	Sunday, Mar 12th 11 pm (CT)
Test 2 (Timed: 50 minutes); Chap 5-8; (It can be taken only once.) Available from Thursday, Mar 9th, 12 am to Sunday, Mar 12th, 11 pm CT						
Week 9 Mar 13 to Mar 19 **(Spring Break)**						
10-11	Mar 20 to Apr 2	Chap 9-10	Discussion #5	Chap 9 Tutorial Chap 10 Tutorial	Chap 9 Quiz Chap 10 Quiz	Sunday, Apr 2nd, 11 pm (CT)
12-13	Apr 3 to Apr 16	Chap 11-12	Discussion #6	Chap 11 Tutorial Chap 12 Tutorial	Chap 11 Quiz Chap 12 Quiz	Sunday, Apr 16th, 11 pm (CT)
Test 3 (Timed: 50 minutes); Chap 9-12; (It can be taken only once.) Available from Friday, Apr 14th, 12 am to Monday, Apr 17th, 11 pm (CT)						
14-15	Apr 17 to Apr 30	Chap 13-14	Discussion #7	Chap 13 Tutorial Chap 14 Tutorial	Chap 13 Quiz Chap 14 Quiz	Sunday, Apr30th, 11 pm (CT)
16	May 1 to May 5	Chap 15	---	Chap 15 Tutorial	Chap 15 Quiz	Friday, May 5th, 11 pm(CT)
Final Exam (Timed: 100 minutes); Chap 1-15; (It can be taken only once.) Available from Monday, May 8th, 12 am to Wednesday, May 10th, 11 pm CT						

Live by the HONOR CODE

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence. I promise that I will submit only work that I personally create or that I contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code

Helplines

For Blackboard related technical problems, e-mail helpdesk@uta.edu , call 817.272.2208, or use their 24/7 support service available through Blackboard's main page.

For Mastering Astronomy issues, contact the student 24/7 Pearson technical support priority line for UT Arlington 855-875-1797

For course related issues, please contact me via Blackboard e-mail option