



**ASTR 1412 01W – Stars and The Universe Online
COURSE SYLLABUS: Spring 2013**

Instructor: Dr. Kurtis A. Williams, Assistant Professor

Office Location: Science 145

Office Phone: 903-886-5516

Office Fax: 903-886-5480

Office Hours: M 9:30–10:30, W 1:30-2:30, Th 3:00–3:50, or by appointment

Virtual Office Hours: TBA

University Email Address: Kurtis.Williams@tamuc.edu

Please include “ASTR Online” in the subject line.

COURSE INFORMATION

Materials – Textbooks, Software and Additional Reading:

Required:

- [Astronomy Today, Vol. 2: Stars and Galaxies](#), 7th edition, Chiasson & McMillan
- [MasteringAstronomy](#)
- [Stellarium \(www.stellarium.org\)](http://www.stellarium.org) – FREE planetarium software

Options for purchasing:

- MasteringAstronomy and an e-text are available as a bundle through the MasteringAstronomy.com website or through mypearsonstore.com for \$78.00 (ISBN 978-0-321-69219-1).
- MasteringAstronomy is available as a standalone product (no text) from MasteringAstronomy.com for \$55.00.
- If you want or need a print textbook, you may purchase Astronomy Today Volume 2: Stars and Galaxies bundled with MasteringAstronomy from the campus bookstore (\$99.05) or from mypearsonstore.com (\$95.07); ISBN 978-0-321-71865-5.
- If you took Astr 1411 with me in Fall 2012, your MasteringAstronomy subscription should still be valid; try it before purchasing access again.
- **IMPORTANT:** Used print textbooks or new versions purchased from other vendors usually do NOT include access to MasteringAstronomy, which will then cost the additional \$55.

Course Prerequisites: None

Course Description:

Astronomy is an ancient science with records dating back to the dawn of civilization. Despite this long history, it remains an exciting and vibrant area of ongoing study. In the coming years, astronomers may discover Earth-sized planets around other stars, see the first stars emerging from the cosmic dawn, and explore new physics in realms and laboratories that Earth-bound scientists can only dream of.

In this course, we will focus on studying stars and galaxies, as well as the natural laws and tools that astronomers use to study these distant objects. We'll begin by studying gravity, light, and telescopes. We'll then study the Sun as an example star and use it as a stepping stone to reach ever further into the Universe. Along the way we'll discover new worlds around other stars, peer into the hearts of black holes, witness collisions of galaxies, and piece together vital clues pointing to the origins of the Universe.

One big topic we will not cover is our own Solar System. If you want to know details about the eight planets, their moons, asteroids, meteors, and comets, you'll need to take ASTR 1411.

Student Learning Outcomes:

1. You will be able to explain the characteristics of stars and their life cycles.
2. You will be able to identify the classes of galaxies and their basic properties.
3. You will be able to state evidence supporting astronomers' explanations of the origin of the Universe.
4. You will be able to evaluate the validity of a scientific hypothesis using the scientific method.
5. You will be able to identify constellations, stars, and deep-sky objects visible from Texas.

COURSE REQUIREMENTS

Instructional Methods / Activities / Assessments

Course pace

While I realize that some online students prefer to complete a course as fast as possible and others like to wait several weeks and then do as much work as possible, these methods won't work with this course. Student interaction is a crucial part of learning, and we can't interact if no two students are on the same part of the course.

The course is broken up into 13 units. Most of these units last one week, with work due by the end of the day on Sundays. I expect you to keep track of unit due dates on progress through eCollege. All due dates will be announced at least one week in advance. eCollege has a Course Checklist tool to help you keep track of what you have and have not completed. If you go to the Course Home page and click on "Course Checklist" at the bottom you can access this tool.

Participation

Research into how people learn shows that the best learning comes from interaction. Simply reading material and taking online quizzes won't help you learn anything useful. I therefore will require you to participate actively in the course. Some of the methods we may use for this participation include threaded discussions on eCollege, live chat, and live meetings using Adobe Connect on eCollege.

For each activity, I will be certain to spell out instructions, due dates, grading procedures, and minimum requirements. Of course, if you want to continue discussions beyond the minimum requirements, I encourage you to do so!

MasteringAstronomy: Reading Quizzes and Homework

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

There will be two types of MasteringAstronomy assignments: reading quizzes and homeworks. I will assign reading for each unit, and the reading quiz checks to see (a) if you did the reading, and (b) where you might be having problems. The reading and reading quizzes are intended to be completed *before* you watch the minilectures. There will be material covered in the reading that I will not cover in minilectures but yet will expect you to know. If a topic is not covered in a minilecture but appears on a reading quiz and/or homework, it may well appear again.

Homework assignments will be assigned for each unit. These are intended to be the “capstone” of each week; i.e. they should usually be the last thing you do in a unit. 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, chat, or by email.

The grading policy for each MasteringAstronomy assignment can be viewed by clicking on “Grading Policy” in each assignment. You may get multiple attempts to answer a question correctly; however, submitting an incorrect answer will cost you some credit. Some more difficult or mathematical questions may be assigned as extra credit for students who want more of a challenge. MasteringAstronomy will identify these questions as extra credit. Late homeworks are penalized 10% per day, up to a maximum of 70%.

The following are considered cheating and will not be tolerated: Directly copying text from a website or other printed source, obtaining copies of solutions to homework questions (whether from past students or other sources), directly copying another student’s work, etc. See the section on “Academic Integrity” below for full details.

Mini-Lectures and Response Questions

Within each unit, I will upload mini-lectures that you will be able to view. These videos are approximately 15 minutes each and will focus on one or two important points each.

Each video will be paired with a minilecture response activity on eCollege. The responses contain a few thought questions that aim to see if you understood the material and thought processes covered in the mini-lecture. These are an opportunity for you to begin to think about and work with the concepts before they show up on homework or exams without the pressure of getting a right or wrong answer. Some questions may be easy, some may be hard, and some will require you to put together more than one concept in order to figure out an answer.

These responses will be graded on whether or not you put thought into your answers, NOT on whether you get the answer right or wrong.

Exams:

Three online exams will be given during the semester through eCollege: the first after Unit 5: Telescopes, the second after Unit 9: Star Death, and the third at the end of the term. For the exams you may use whatever materials you like (text, homework solutions, internet searches, etc). However, the exams are *timed* and may only be taken once, so you will want to study the material well before taking the exam. The exams are not officially cumulative, but astronomy is a very intertwined science and topics covered on exam one will be required knowledge to answer questions on exam three.

Labs:

Labs are mandatory and are part of your grade. **By University policy, if you receive a failing grade (<60%) in the lab portion of the class, you will fail the class.** Labs will be included in the normal weekly course activities in the eCollege course page; THERE IS NO SEPARATE eCOLLEGE COURSE PAGE FOR THE LAB.

Some labs will make use of Stellarium, a free downloadable program for your computer. The installation and basic usage of this program will be covered in Unit 1.

Some labs will require you to turn in *legible* scans of drawings or graphs as well as answering questions; you are responsible for finding a scanner or good camera and knowing how to upload these files to your computer.

Optional: Observatory Visit and Planetarium Show:

During the semester, we will schedule optional visits to the Commerce Observatory and to the planetarium. The date and time of these visits will be announced well in advance. At each session, there will be an activity you can complete that will count as extra credit toward your lab grade. The observatory is located about 5 miles south of Commerce, and the Planetarium is located on the A&M-Commerce campus. If you do not attend main campus and cannot make either visit, an alternative extra credit opportunity will be provided.

Grading

Grading will be done on an absolute scale with no “curves” and no competition. If you all earn A’s, you all get A’s. Your current grades will be available through the gradebook on eCollege. Note that the gradebook on MasteringAstronomy is not official.

Extra credit opportunities may be announced during the semester. Outside of announced opportunities available to the entire class, there is no extra credit available.

Grading is weighted by assignment using the following weights:

Discussions	10%
Reading Quizzes & Miniecture Responses	15%
Homework Assignments	25%
Exams	30% (10% each)
Labs	20%

The grading scale is:

90% to 100%	A
80% to 89.9%	B
70% to 79.9%	C
60% to 69.9%	D
Below 60%	F

TECHNOLOGY REQUIREMENTS

This course is a fully online course. I expect that you are familiar and comfortable with basic computing skills and web browsing, and that you are able to learn to use the various tools on eCollege even if you are not familiar with them yet.

You will need the following technologies and software to be successful in this course:

- Internet access/connection – high speed recommended (not dial-up).
- Headset and/or microphone
- Word processor
 - I can see the following types of files:
 - MS Word .doc/.docx
 - Apple Pages
 - Plain ASCII text
 - If you have another type of word processor, you will need to save your output as a plain text file or PDF. You can feel free to send me a test file to make sure I can read it.
- Spreadsheet
 - I can see the following types of files:
 - MS Excel
 - Apple Numbers
 - If you have another type of spreadsheet program, you will need to be able to export spreadsheets in one of the above formats or PDF. Again, feel free to send me test files.
- Stellarium – a free planetarium program available for PC, Mac, and Linux at www.stellarium.org
- Software to read PDF files (such as Acroread or Preview)
- MasteringAstronomy – the web-based astronomy homework system at MasteringAstronomy.com. See *Course Requirements* for details on how to purchase a subscription.

Additionally, the following hardware and software are necessary to use eCollege:

- Our campus is optimized to work in a Microsoft Windows environment. This means our courses work best if you are using a Windows operating system (XP or newer) and Internet Explorer (6.0, 7.0 and 9.0).
- eCollege claims to support Mac OS X and iPads (iOS 5.1 or later with some features disabled), as well as the Safari browser (on Macs) and Firefox and Chrome on Windows machines. Be advised that there are often problems, especially after a software update.
- I strongly recommend that you check that your computer and browser are compatible with eCollege by performing a “Browser Test” prior to the start of your course. To launch a browser test, login in to eCollege, click on the ‘myCourses’ tab, and then select the “Browser Test” link under Support Services.

ACCESS AND NAVIGATION

MasteringAstronomy and eCollege Access Information

Homework and Reading Quizzes must be completed using MasteringAstronomy, <http://www.masteringastronomy.com>. You are required to purchase a subscription to this site; it comes included with the textbook bundle available through the bookstore, or it can be purchased separately. Our Course ID in MasteringAstronomy is **ASTR141201WS13**. MasteringAstronomy has support available at: <http://masteringastronomy.com/site/support/faq-students.html>

This course will be facilitated using eCollege, the Learning Management System used by Texas A&M University - Commerce. To access these materials, go to: <https://leo.tamuc.edu/login.aspx>. You will need your CWID and password to log in. If you do not know your CWID or have forgotten your password, contact Technology Services at 903-468-6000 or helpdesk@tamuc.edu.

Being a Successful Student

I encourage you to check out the following resources to see if you are likely to succeed in an online course. If you are uncertain, you are always welcome to switch sections to join our brick-and-mortar version of Astr 1412 (see the Schedule of Classes for meeting times and course numbers).

- [What Makes a Successful Online Student?](#)
- [Self-Evaluation for Potential Online Students](#)
- SmarterMeasure (instructions on eCollege in Unit 1)

How This Course Is Organized

This course will be organized by units. Most units will last just one week, but some units may take multiple weeks. Some units cover one chapter in the text, some cover multiple chapters. You should check the course page often to see what activities and assignments are due during the week.

What Should You Do First?

After reading this syllabus, you should proceed to the course page on eCollege and complete the activities and assignments listed under Unit 1. Due dates are specified on eCollege.

How Should You Proceed For Each Unit?

1. All activities and assignments for a unit will be listed on the unit's main page on eCollege. The unit home pages are found in the left navigation bar of eCollege. A course announcement will be made when each unit is available.
2. You should complete any reading assignments and reading quizzes first.
3. After completing reading quizzes, you may listen to any online minilectures listed within the unit and complete the associated response questions.
4. Complete any other listed activities and assignments given in the weekly unit.
5. If there is a laboratory activity under the unit, be sure to complete it by the deadline.
6. Even after completing the unit, you may want to check for any new content (such as new minilectures or external links) that I may post in order to clear up any confusing topics.
7. No new assignments will be posted in a unit after the announcement that the unit is available.

COMMUNICATION AND SUPPORT

Interaction with Instructor

Email: I can be reached by email at Kurtis.Williams@tamuc.edu. Please put "ASTR Online" 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). Likewise, I expect you to check your MyLeo email regularly.

Virtual Office: Virtual Office is a link in the left menu bar of eCollege that allows you to start discussion threads with me. Note that these threads are not necessarily private. It may take me up to 24 hours to reply (48 hours on the weekend or holidays).

Adobe Connect and Class Live Pro: These are two tools that we may make use of for live discussions / office hours. Any live sessions will be optional.

Twitter: I have set up a Twitter account @prof_kwilliams (http://twitter.com/prof_kwilliams). This feed will be used primarily for reminders and important class updates; search the feed for #online to get updates for this class. You do not need a Twitter account to view these updates. **You should not assume** that I will read (or even see) direct messages or replies to tweets. No crucial information will given out only on Twitter.

Office Hours: Office hours are available in both real-world and virtual formats. Office hours are times that I set aside when I promise to be in my office so that you can come by and talk to me. During 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 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 bring your textbooks, class notes, and homework sets with you.

If you want to talk but cannot come during office hours, please contact me by email in order to set up an individual appointment. By setting an appointment, you both guarantee that I will be in my office 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.

Facebook: Please do not contact me or friend me on Facebook. I prefer not to spam my students with cat videos, and you won't have to worry about criticizing me and me seeing it.

Netiquette

I expect all students to behave to basic standards of etiquette on the web (and in real life). Abusive or inappropriate comments will be removed and earn a reprimand; any additional lapses could result in disciplinary action. For a simple guide to netiquette, see <http://www.albion.com/netiquette/corerules.html>

eCollege Student Technical Support

Texas A&M University-Commerce provides students technical support in the use of eCollege. The student help desk may be reached by the following means 24 hours a day, seven days a week.

- **Chat Support**: Click on 'Live Support' on the tool bar within your course to chat with an eCollege Representative.
- **Phone**: 1-866-656-5511 (Toll Free) to speak with eCollege Technical Support Representative.
- **Email**: helpdesk@online.tamuc.org to initiate a support request with eCollege Technical Support Representative.
- **Help**: Click on the 'Help' button on the toolbar for information regarding working with

COURSE AND UNIVERSITY 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 cutting/pasting text you find is considered cheating.*** Searching the Internet for help on a topic is okay. For example, suppose a question asks “Describe the life cycle of a star that has the same mass as the sun.” Typing that phrase into Google and cutting and pasting the text in the answer box is considered cheating. Typing “star life cycles” into Google, reading a few web pages, and summarizing the information in your own words is not cheating.
 - ***Borrowing a previous student’s homework, exams, or solution sets is considered cheating.*** “Borrowing” includes looking at someone’s submitted homework, screen shots, stealing returned homeworks, and so on.
- **Collusion** is working with another person to cheat. This can include copying someone else’s answers to an exam or assignment, doing work for another student, buying or otherwise obtaining homework/exam solutions from any source online or off-line, or any other instance of multiple people engaging in some form of cheating or dishonesty. Working with other students on an assignment is fine ***as long as*** everyone contributes and each student does their own work.
- **Any other activity that, to a reasonable person, looks wrong.** If you have any doubt whatsoever whether a certain action is considered dishonest, please ask me *before* engaging in the activity. There is no need to be embarrassed about asking, and I won’t penalize you for asking! In this class, if you follow the maxim “it’s easier to beg forgiveness than to ask permission”, don’t expect forgiveness to be forthcoming.

If you engage in academic dishonesty during any graded activity, you will receive no credit for that activity. More than one instance of dishonesty by a student will result in

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

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

MasteringAstronomy and eCollege 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.

Examination Policy

- For the online exams you may use whatever static materials you like, including your text, homework solutions, internet searches (as long as you do not cut-and-paste), etc. But see the next point...
- You must work on the exam alone – you may not discuss the exam with other students prior to the due date, you may not use any sort of communication like email, Skype, texting, ChaCha, talking, writing, sign language, etc., etc., etc. to communicate with any other human during or after the exam.
- When an exam is assigned, you will have one week to complete the exam.
- The exams are *timed* and *may only be taken once*, so you will want to study the material well before taking the exam.
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“Attendance” Policy

While this class will have no required synchronous (live online) meetings, you will be required to participate in online threaded discussions. As such, you should be active in the class weekly. If life happens and you will be unable to log on for an extended period of time (like > 1 week), please contact me in advance to discuss options.

Assignment Policy and Due Dates

All assignments will be posted at least one week before they are due. Assignments and due dates will be posted in the main page for each unit. Submission requirements for each assignment will also be given on that page.

Late Work

Late assignments are penalized 10% for each day late (including weekends), up to a maximum 70% penalty. Late exams will receive a zero.

Dropping The Course

A student may drop this course by logging into their 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 may choose not to offer you the opportunity. You should also know that you only have access to an eCollege course for two weeks following the final day of term.

Administrative Withdrawl

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.

University Specific Procedures

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 132
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
StudentDisabilityServices@tamuc.edu
[Student Disability Resources & Services](#)

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See *Code of Student Conduct from Student Guide Handbook*).

COURSE OUTLINE / CALENDAR

The course will cover many of the topics outlined below. The dates below may change (never earlier, but possibly later) so pay attention to announcements on eCollege for final due dates.

1st Block: Tools of the Astronomer

- Unit 1: Introductions (Jan 14-Jan 20)
- Unit 2: The Scientific Method & Astronomy (Jan 21-Jan 27)
- Unit 3: Radiation (Jan 28-Feb 3)
- Unit 4: Spectroscopy (Feb 4-Feb 10)
- Unit 5: Telescopes (Feb 11-Feb 17)
- **Week of Feb 18: Exam 1**

2nd Block: Stars

- Unit 6: The Sun (Feb 18-Feb 24)
- Unit 7: Properties of Stars (Feb 25-Mar 10; due dates will be spread over the two weeks)
- **Week of March 11: Spring Break! No Assignments**
- Unit 8: Stellar Evolution (March 18-March 28)
- Unit 9: Star Death (March 29-April 7)
- **Week of April 8: Exam 2**

3rd Block: Galaxies and the Universe

- Unit 10: The Milky Way and its Neighbors (April 8-April 14)
- Unit 11: Cosmology (April 15-April 21)

- Unit 12: The Big Bang (April 22-April 28)
- Unit 13: Life in the Universe (April 29-May 5)
- ***Finals Week (May 4-10): Exam 3***