

Syllabus

Astronomy 203 – Lec 001 Stars Spring 2020

LECTURES: Monday, Wednesday 2:00 – 3:15 p.m., Flandrau Planetarium Theater

INSTRUCTOR: Dr. Thomas A. Fleming

OFFICE: Steward Observatory, Room 209

TELEPHONE: 621-5049

EMAIL: taf@email.arizona.edu

OFFICE HOURS: Monday 10:30 – 11:30 am; Tuesday 10:30 am – 12:00 pm
or by appointment

TEACHING ASSISTANT: Katrina Litke

OFFICE: Steward Observatory Room T101

TELEPHONE: 626- 3299

EMAIL: kcitke@email.arizona.edu

OFFICE HOURS: Tuesday 2:00 – 3:00 pm; Thursday 10:00 – 11:00 am

MIDTERM EXAMS: Wednesday, Feb. 19, 2:00 – 3:15 p.m.

Wednesday, Apr. 1, 2:00 – 3:15 p.m.

FINAL EXAM: Friday, May 8, 1:00 – 3:00 p.m., Flandrau Planetarium Theater

REQUIRED SOFTWARE: *Mastering Astronomy & Stellarium*

REQUIRED: TurningPoint® ResponseCard NXT or QT Device (aka clicker)

WEBSITES: <http://d2l.arizona.edu> (ASTR 203)

<http://stars.astro.illinois.edu/sow/sowlist.html> (*Stars*)

PARTICIPATION IN CLASS: Participation points will be earned electronically at each lecture, starting January 27, and will figure into your final grade. You are required to purchase an NXT or QT clicker for this course. You are responsible to bring it to every lecture. In order to encourage you to do so, we will award you participation points in each class when you use your clicker.

Students without a clicker in class will not receive points. You will receive points if you have an official excuse from the Dean of Students Office, a note from a health care provider, or you are observing a religious holiday which is associated with an organized religion to which you belong. You are responsible for informing Dr. Fleming or Ms. Litke if this is the case. You are responsible for all information given out in the lecture, including schedule changes. In addition, assignments will be announced in lecture. The average student gets a higher grade when (s)he faithfully participates in class.

The UA's policy concerning Class Attendance, Participation & Administrative Drops is available at <http://catalog.arizona.edu/policy/class-attendance-participation-and-administrative-drop>

REQUIRED SOFTWARE: You are required to establish an account on *Mastering Astronomy*. You can purchase an account for \$59.95. The instructions for opening an account on *Mastering Astronomy* and registering for this class are given on Page 6 of this syllabus. The *Stellarium* software is free.

GRADES: Your final grade for the course will be based on the following assessments:

Midterm/Final Exams	300 points (37.5%)
Star Report	100 points (12.5%)
On-line Homework	300 points (37.5%)
Participation	50 points (6.25%)
Constellation Quiz	50 points (6.25%)

If you wish to contest a score on one of your assignments, you must contact Dr. Fleming or Ms. Litke no later than 2 weeks after the score is posted on the D2L course site.

These are the hardest percentages needed to earn a specific grade. We reserve the right to further curve the class later, making the grading slightly easier. BUT under no circumstances will anyone doing less than 50% work pass this class.

A	= 720 points (90%)
B	= 640 points (80%)
C	= 520 points (65%)
D	= 400 points (50%)
E	< 400 points

STAR REPORT: At the beginning of the semester, you will each be given the name of a star (see the **Grades** page on the D2L website.) That will be your identifier for the entire course. You will be expected to learn everything there is to know about that star, including where it is located in the sky. At the end of the semester, you will be required to submit a written report on your star. The report should cover information on your star such as: 1) its position in the HR-Diagram; 2) where it is in its own life-cycle; 3) a description of how it will end its life; 4) its location in our Galaxy; 5) how it was named, etc. More details will be given in class and on D2L. First drafts will be due on March 6 at 5:00 p.m. You will receive feedback on your first draft. Final reports will be due on April 17 at 5:00 p.m. MST. You will also be required to submit your first drafts to TurnItIn.com.

ON-LINE HOMEWORK: You will be required to do homework assignments outside of class. They involve computer simulations using the *Mastering Astronomy* (MA) website and the *Stellarium* planetarium software, which you will access from the “Pearson MyLab and Mastering” widget on the “Home” page of your D2L coursesite. You will submit your answers through the MA website. You may discuss the astronomy concepts with your classmates, but you are expected to do your own work on these assignments.

CONSTELLATION QUIZ: We have scheduled star parties on two evenings (Feb. 16 & Mar. 22) at Saguaro National Park West. They will last two hours (7 – 9 pm). You are required to attend at least one of them. We will point out the constellations while members of the Tucson Amateur Astronomy Association will set up their telescopes for viewing. During one of these sessions, you must take your constellation quiz. To get full credit (50 pts), you must identify 10 constellations and 5 stars.

DEADLINES: We will accept **no** late assignments. You will be given at least one week to complete an assignment. If you choose to wait until a few hours before the deadline to do your assignment, you are taking a calculated risk. Should your printer break, Internet go down, or an emergency arise, these will not be valid excuses. You will not get an extension because you chose to wait until the last moment to start the assignment. If this worries you, start your assignments early and hand them in early!! You can submit an assignment to us any time before the deadline.

ACADEMIC DISHONESTY: Presentation of any work other than your own is considered academic dishonesty. This includes copying test answers or homework assignments, other persons taking exams for you, or reference to any unauthorized materials during the exam. Any other technique that gains unfair advantage over other students is also considered academically dishonest. All students must be prepared to present valid picture identification if requested during an exam period. Any incidents of academic dishonesty will be dealt with according to the University of Arizona's Code of Academic Integrity. A copy of this Code can be obtained at the Dean of Students website. The consequences can range from loss of credit on an assignment to dismissal from the University, depending on the severity of the offense. The penalty for plagiarism, cheating on an exam, computer fraud, or using another student's clicker to falsify participation will be automatic failure of the course, and depending on the circumstances, we may seek your suspension or expulsion.

You can find details of the Code at:

<http://deanofstudents.arizona.edu/academic-integrity/students/academic-integrity>

You should also be aware of the University's policies on disruptive and threatening behavior:

<http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students>

The University is committed to creating and maintaining an environment free of discrimination, cf.

<http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy>

TURNITIN.COM: If you decide to continue in this course, you are agreeing to submit your papers online, when so instructed, to a plagiarism-prevention program called TurnItIn.com. You should note that TurnItIn.com – always without your name and any personal information – will retain your paper as part of their database so that students who plagiarize from it can be detected. Because of this program, the vast majority of you who do your own work and cite your sources of information properly will not have to compete with students who commit undetected plagiarism. Anyone who has questions or problems with TurnItIn.com may talk privately about these with Dr. Fleming.

STUDENTS WITH DISABILITIES: If you anticipate issues related to the format or requirements of this course, please meet with Dr. Fleming. We will discuss ways to ensure your full participation in the course. If you determine that formal, disability-related accommodations are necessary, it is very important that you be registered with Disability Resources (621-3268; <http://drc.arizona.edu>) and notify Dr. Fleming of your eligibility for reasonable accommodations. We can then plan how best to coordinate your accommodations. We do not use the DRC testing center; Dr. Fleming will administer all testing accommodations.

HONORS CREDIT: This course is available for Honors credit via an Honors contract. To receive Honors credit, you will have to conduct a project that is more challenging than the assignments outlined in this syllabus, such as taking astronomical images with a telescope. More info at:

<http://www.honors.arizona.edu/future-students/honors-credit-across-campus>

LEARNING OUTCOMES: ASTR 203 is a Natural Sciences Tier 2 course in the University of Arizona General Education program. Upon completion of this course, students will be able to:

- understand the nature and application of physical science
- apply ideas and processes beyond the classroom
- recognize the complexity of many scientific issues
- speak and write about scientific knowledge
- appreciate the relative scale of objects, rates of change, linear and nonlinear growth
- critically analyze and interpret data and results presented in tables, graphs and charts as well as perform appropriate mathematical calculations
- read and understand scientific literature from popular sources such as magazines and newspapers

LEARNING GOALS FOR THIS COURSE: In this course, the student is expected to take an active role in his/her learning. Do not expect us to lecture for the entire class period while you sit, listen, and take notes. Class time will be peppered with “mini-lectures,” separated by various activities which will make use of the clickers. Be prepared to interact with your classmates, ask questions, and participate in group discussions. You will also interact with computer-generated animations and exercises.

Our goals for you in this course are that, after it is over:

- 1) You will have an appreciation for the role that stars have played in the history of humanity.
- 2) You will be able to read and understand the information contained in a basic star catalog.
- 3) You will know how the elements were created.
- 4) You will have exercised your critical thinking and problem-solving skills.

We ask that you participate fully in the course. In return, we promise to make this course as interesting and **fun** for you as we can.

QUESTIONS: Students are encouraged to ask questions in class and to seek help if needed. It is to your advantage to seek help when you encounter problems rather than at the last minute just before an assignment deadline. We are here to help you understand something about the subject of astronomy. Remember, there is no such thing as a stupid question!

Information contained in the course syllabus, other than the grade and absence policy, may be subject to change with advance notice, as deemed appropriate by the instructor.

LECTURE TOPICS:

<u>Date</u>	<u>Topic</u>	<u>Chapter in MA eBook</u>
Jan 15	Introduction, Celestial Motions, Coordinates	2, S1
Jan 22	Constellations, Naming of Stars	
Jan 27, 29	Light, Gravity & Motion	5, 4
Feb 3, 5	Star Motions & Distances, Magnitudes & Color	
Feb 10, 12	Atomic Physics, Spectral Classes, HR-Diagram	15
Feb 17	Binary & Variable Stars	15
Feb 24, 26	The Sun, Nuclear Fusion Reactions	14
Mar. 2, 4	Solar Activity, Main Sequence Star Lifetimes	14
SPRING BREAK		
Mar 16, 18	Evolution of Low-mass Stars, Star Clusters	17
Mar 23, 25	Novae, Supernovae (Type Ia), Evolution of High-mass Stars	17
Mar 30	Supernovae (Type II), Neutron-Capture Processes	
Apr 6, 8	Neutron Stars, Special Theory of Relativity	S2
Apr 13, 15	General Theory of Relativity, Black Holes	S3, 18
Apr 20, 22	Black Holes, Interstellar Medium	16
Apr 27, 29	Star Formation, the Milky Way Galaxy	16, 19
May 4, 6	“Star Stuff”	

Student Registration Instructions for D2L

First, enter your D2L course

1. Sign in to D2L and enter your D2L course.
2. Select Pearson's MyLab and Mastering in the Pearson widget on the D2L course's home page. Next, select any course link on the Pearson page.

Next, get access to your Pearson course content

1. Enter your Pearson account **username** and **password** to **Link Accounts**.
You have an account if you have ever used a MyLab or Mastering product.
 - » If you don't have a Pearson account, select **Create** and follow the instructions.
2. Select an access option:
 - » Enter the access code that came with your textbook or that you purchased separately from the bookstore.
 - » If available for your course,
 - Buy access using a credit card or PayPal for \$59.99.
 - Get temporary access for 14 days.
3. From the You're Done page, select **Go to My Courses**.

Note: We recommend you always enter your Mastering Astronomy course through D2L.

Get your computer ready

For the best experience, check the system requirements for your product at <https://www.pearsonmylabandmastering.com/system-requirements/>

Need help?

For help with Mastering Astronomy for D2L, go to

https://help.pearsoncmg.com/integration/cg/brightspace/student/en/content/get_started.htm Copyright

© 2020 Pearson All Rights Reserved.

Classroom Etiquette

In order to foster a good learning environment for the ASTR 203 course, I agree to obey the following rules of etiquette while attending class:

1. I will not eat food or drink anything other than water in the Flandrau Planetarium Theater.
2. I will not read the *Arizona Daily Wildcat* or any other newspaper while class is in session.
3. I will turn my cell phone or other mobile devices OFF while class is in session.*

*3a. If I am a parent or I am in an emergency situation, I will set my cell phone to VIBRATE.

4. I will not disrupt class by talking to my classmates about non-course-related subjects while the professor or TA is speaking to the class.
5. I will not use my laptop to play movies or games or surf the Internet for non-course-related subjects and sites (e.g., FACEBOOK) while class is in session.
6. I will make every effort to arrive in class on time and not leave until class is over.
If I must arrive late or leave early, I will not disrupt class or distract my classmates.
For safety reasons, when the FULL-DOME PROJECTOR is in use, the doors to the planetarium theater will be LOCKED from the outside. I understand that I will not be able to enter the theater/class while the projector is in use and I must wait until the presentation is over and the doors unlock before entering the class.
7. I will not bring any pets or animals into the classroom (seeing-eye/therapy dogs exempted.)
8. Should I break any of these rules of etiquette which are listed above, I give Dr. Fleming **full authority** to eject me from the classroom.

Signed,

Print your name

Your signature

Classroom Etiquette

In order to foster a good learning environment for the ASTR 203 course, I agree to obey the following rules of etiquette while attending class:

1. I will not eat food or drink anything other than water in the Flandrau Planetarium Theater.
2. I will not read the *Arizona Daily Wildcat* or any other newspaper while class is in session.
3. I will turn my cell phone or other mobile devices OFF while class is in session.*

*3a. If I am a parent or I am in an emergency situation, I will set my cell phone to VIBRATE.

4. I will not disrupt class by talking to my classmates about non-course-related subjects while the professor or TA is speaking to the class.
5. I will not use my laptop to play movies or games or surf the Internet for non-course-related subjects and sites (e.g., FACEBOOK) while class is in session.
6. I will make every effort to arrive in class on time and not leave until class is over.
If I must arrive late or leave early, I will not disrupt class or distract my classmates.
For safety reasons, when the FULL-DOME PROJECTOR is in use, the doors to the planetarium theater will be LOCKED from the outside. I understand that I will not be able to enter the theater/class while the projector is in use and I must wait until the presentation is over and the doors unlock before entering the class.
7. I will not bring any pets or animals into the classroom (seeing-eye/therapy dogs exempted.)
8. Should I break any of these rules of etiquette which are listed above, I give Dr. Fleming **full authority** to eject me from the classroom.

Signed,

Print your name

Your signature

[Please sign this copy of the contract and return it to either Dr. Fleming or Ms. Litke by Monday, January 27 or you will be dropped from the class!]