

Syllabus for Astronomy 101

Basic Astronomy

Fall 2017

Instructor: Dr. Kevin Krisciunas

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Office hours: Monday and Wednesday, 10:15 to 11:15 AM, and by appointment

Text: *The Essential Cosmic Perspective*, 8th edition, by Jeff Bennett and coauthors (ISBN 978-0-13-451633-2)

Supplementary reading: *A Guide to Wider Horizons*, by Kevin Krisciunas, 2nd edition (2016), ISBN 978-1-5249-0115-8. There are 3 copies on reserve at the Evans Library Annex, 4th floor.

Known errata in first printing of second edition of supplementary reading: p. 31, fn 21, line 5 (change “person’t” to “person’s”); p. 35, line 2 (change “should should” to “should”); p. 37, 12 lines from bottom (for “solider” read “soldier”); p. 57, 8 lines from bottom (for “that” read “than”); p. 60, line 5 (for “textbooks” read “textbook”).

You are responsible for reading and studying chapters 1-5 and 11-18 of *The Essential Cosmic Perspective* in their entirety, plus section 7.5. In *A Guide to Wider Horizons*, we’ll discuss chapters 1, 3, 5, 7 to 10, and 12. Everything discussed in class is fair game for quizzes and tests. *The final exam will be cumulative.*

Topics by week (subject to change):

Week 1, Introduction, scientific notation, the sky (chapter 1)

Week 2, Phases of the Moon, eclipses (chapter 2)

Week 3, History of astronomy (chapter 3)

Week 4, History of astronomy, continued; Newtonian physics (chapter 4)

Week 5, Newtonian physics, continued; relativity

Week 6, Nature of light, telescopes (chapter 5)

Week 7, Solar system topics (terrestrial planets, Jovian planets, dwarf planets, asteroids, meteors, comets, the Earth's carbon dioxide cycle, what would cause climate change, three ways to find extra-solar planets, the search for extraterrestrial life). These topics are covered in chapters 6 to 10, but you don't have to read them in their entirety. Which sections do you have to read? You have to figure that out by coming to class.

Week 8, Solar system topics, continued; the Sun (chapter 11)

Week 9, Basic properties of stars (chapter 12)

Week 10, Star formation, the interstellar medium, stellar evolution (chapter 13)

Week 11, Stellar evolution, continued

Week 12, End states of stars, the Milky Way (chapters 14, 15)

Week 13, Galaxies, expansion of the universe (chapters 16, 17)

Weeks 14-15, Cosmology (chapter 18)

Contributions to your grade:

Quizzes, 2%

Clicker points, 8%

Online homework, 10%

Hour exams: 20% each $\times 2 = 40\%$

Final exam: 40%

Grading scale:

A: 80+ to 100, B: 70+ to 80, C: 60+ to 70, D: 50+ to 60, F: less than 50 percent.

Notable dates:

Monday, August 28, first day of class

Wednesday, October 11, 1st exam

Wednesday, November 15, 2nd exam

Friday, November 17, 5 PM, Q-drop deadline

Wednesday, December 6, last scheduled day of class

Monday, December 11, 8-10 AM, final exam for section 501 (09:10 class)

Wednesday, December 13, 10:30 AM to 12:30 PM, final exam for section 502 (11:30 class)

The class website at Texas A&M is:

<http://people.physics.tamu.edu/krisciunas/astr101-fall17.html>

Online homework is done via: pearsonandmylabandmastering.com

For online homework the course ID = krisciunas24595 for section 501 (09:10 class).

For online homework the course ID = krisciunas73762 for section 502 (11:30 class).

We will be using iclickers in this course. You can register your iclicker by visiting www.iclicker.com on the web.

When you have an access code from the packaging of your textbook, you will use that to obtain a username and password for Mastering Astronomy. Do not forget to write down your username and password!

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 believe you have a disability requiring an accommodation, please contact the Student Services at White Creek complex on west campus or call 845-1637.*

Aggie Honor Code: *"An Aggie does not lie, cheat, or steal or tolerate those who do."* Academic and personal integrity are very important. For more information go to: <http://aggiehonor.tamu.edu/>

An example of cheating would be to loan your clicker to a friend when you are not coming to class, so as to garner clicker points. If the evidence is strong that you have done this, you may get **ZERO** clicker points for the semester. This is up to the discretion of the instructor. Note also that the person *using* a clicker for a friend is also cheating. Both people may be reported to the Aggie Honors Office.