

This course explores the contents and history of the Universe. After establishing the methods of astronomy, the course studies the principal components, size of and history of the Universe.

The overarching goals of this course are for you to be able to:

- Demonstrate an understanding of the current state of the Universe, the history of the Universe, and the fate of the Universe through a variety of course components
- Examine and assess the observations that lead astronomers to believe the current picture of cosmology
- Contemplate the degree to which the scientific method is employed in scientific investigations

To meet these goals, the course instructors have carefully designed a sequence of learning tasks and assessment procedures as outlined on the following pages.

The four main themes of the course are:

- Basics of Astronomy (terminology, scale of the universe, physics & light, scientific method, telescopes)
- Stars & Galaxies & Distance Scales (measuring distances to stars & galaxies, stellar properties)
- Progression of Cosmology (Earth & Sun, existence of galaxies, BB vs. steady state, expansion of the Universe, structure of the Universe)
- Creating a Universe (Big Bang, nucleosynthesis, dark matter & energy)

[Our class is fully online and meets in the UA's course management system D2L](#)

D2L – the UA's learning management system

<http://d2l.arizona.edu>

Once you register in ASTR 201 you will see the course show up under your Student Tab. This is our class home – it will be the place you check for announcements, assignments, discussions, grades – all course material will be linked to from D2L. It's where you go to know what to do and where you participate in the course.

If you need D2L help, first visit: <http://help.d2l.arizona.edu>

FIRST DAY OF CLASS: Thursday, October 12th



Log into D2L on October 12th, 2017 as you have Readings, Lectures, Homework, Activities, and Discussion due on Wed October 18th 11:59pm MST

Course Syllabus – Your Roadmap to ASTR 201

This document and referenced documents are your roadmap to *ASTR201 Cosmology* and serves as the contract between the instructors and students. Should you have any questions or need clarification, please post in the [Help Forum](#) (Discussions) as your peers may have the same questions and we can share answers.

Meet Your Teaching Team



Instructor: Dr. Peter Milne
Email: pmilne@as.arizona.edu
Office: Steward Observatory Room 304, University of Arizona
Phone: (520) 626-5731



Course Designer: Adrienne Gauthier, M.Ed.
Now at Dartmouth

Dr. Milne will respond to your emails within ~24 hrs, including weekends. We monitor the Help area in the Forum and you'll see us engaging in your discussion assignments when needed. We do monitor all discussion areas, even if you don't see us post.

Office Hours

	In D2L Online Room "Office Hours" MST (AZ Time)
Dr. Milne - Virtual	Tues: 1-2pm D2L Online Room "Office Hours"
Dr. Milne – Face to Face	By request, Steward Observatory Room 304

Additionally – there is an Online Room open in D2L called **24x7 Meeting Place** for you to meet with classmates virtually to work on assignments or get peer help.

Course Prerequisites

Courses: There are no prerequisite courses or content knowledge for this course.

Math: You will encounter formulae and ratios for which an understanding of basic algebra and basic geometry is useful. A level of at least high school senior math is expected. There will be tutorials and resources to help you if you need assistance.

Online learning: You are not required to have taken a fully online course prior to enrolling in *ASTR201 Cosmology*. If you have concerns or trouble with being a fully online student, please contact Dr. Milne.

Technology/Computing Skills

We use many different web-enabled tools in this course. You should be comfortable using a web browser, clicking links to navigate online, using a search tool, downloading and opening files, and comfortable navigating new web spaces by examining where to click/submit/etc. Additionally, you will be asked to use a word processing program to complete the project and activities. There are videos and podcasts in this course for which you need audio/speakers/headphones as well as interactive activities where you play with the content/questions/animations online.

If you have technology trouble during the course please visit/call the OSCR Help Desk site for information: <http://uits.arizona.edu/departments/the247>

If you have further problems, please email your instructor(s).

Your Learning Community

Even though you may not be sitting physically next to your classmates you are still a class of students learning together. We want to encourage a positive learning community where you can:

- ask questions freely in office hours and the 24x7 Meeting Place
- feel comfortable asking for help from classmates or instructors in discussion forums
- can freely email the instructors when you need help
- feel welcome during any and all office hours

For some Activities you will be collaborating with classmates. If you encounter difficulty with this, please let us know so we can help.

We'll also be asking you periodically how you are doing with the course content so we can help clear up sticking points. Each week there will be feedback surveys with questions like "What is your muddiest point this week?" so we can help you along the learning journey. We'll also guide the discussion assignments and group work.

We expect everyone in the class to abide by and encourage your peers to follow the UA's Student Code of Conduct. This includes general rules of netiquette, being polite in online discussions, no flaming/teasing, no swearing/cursing, and being mindful and tolerant that everyone has their own personal belief system and is due full respect. If you feel you are being mistreated or you see a fellow student acting inappropriately, please notify us immediately.

Important Policies:

Core Rules of Netiquette <http://www.albion.com/netiquette/corerules.html>

UA Student Code of Conduct: <http://deanofstudents.arizona.edu/policiesandcodes/studentcodeofconduct>



Go read the Core Rules of Netiquette and the UA Student Code of Conduct from the links above.

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(1) Textbook

This course will use the textbook, “The Cosmic Perspective: Stars, Galaxies & Cosmology” 8th Edition by Bennett, Donahue, Schneider and Voit. It is also acceptable to use “The Cosmic Perspective” 7th Edition by the same authors.

7th: ISBN-10: 0321642686 ISBN-13: 9780321642684

(2) PURCHASE *Mastering Astronomy*

Online access purchased through Pearson and is **\$59.95 USD** if it did not come with the textbook. You need to buy online access and you need to choose the correct textbook when you sign up.

Go here and choose Students: <http://www.masteringastronomy.com/>

1. Choose “No, I need to purchase access online now” If you purchased an access code for another course that doesn’t expire yet, it might work.
 2. Choose the option Bennett, et al “The Cosmic Perspectives: Stars, Galaxies, and Cosmology” 8E
 3. You do not need the e-text for this course Choose “No Thanks” and hit Continue
 4. Read and agree to their fine print
 5. Follow through and create an account and purchase the access code. Write down the access code.
 6. Return back to the main site and Login. At some point it will ask you for the access code you purchased and then verify your information. Just walk through it.
7. It will ask you to Join a course. Choose Yes for receiving a code and then enter: **MAMILNE82921** for 8th edition or **MAMILNE55713** for 7th edition
8. If it asks you for a student ID, please use your UA NetID. On the instructor side we can fix that later if there is an error.

If you have REGISTRATION questions: contact <http://247.aw.com/> and fill out the request form for help. If you have Mastering Astronomy questions: contact support@masteringastronomy.com or refer to the online help documents.

Computer/Software Requirements

This course is fully online and you will need a computer with internet access. Not all course materials will be viewable or usable on handheld devices or tablets (iPad, etc.). You will need to use either Mozilla Firefox or Microsoft Internet Explorer for your web browser as those are supported by our UA D2L tech support. You should also make sure your JAVA, Adobe Flash Player, and Adobe Shockwave Player are up to date. You will also need Quicktime for videos/podcasts and a PDF reader. You can use any "office suite" you like, though we prefer Microsoft Word, Microsoft Powerpoint, OpenOffice (free), or Google Docs. For Office Hours and live meeting places we use D2L Online Rooms (Elluminate Live!) which may require a temporary Java file download. Lectures are broadcast via iTunes which can be used on a PC or Mac, streamed live, or downloaded for offline viewing.

Mozilla Firefox (PC and Mac): <http://www.mozilla.org/en-US/firefox/new/>

Internet Explorer (PC): <http://windows.microsoft.com/en-US/internet-explorer/products/ie/home>

JAVA update: <http://java.com/en/>

Adobe Flash Player: <http://get.adobe.com/flashplayer/> Adobe

Shockwave Player: <http://get.adobe.com/shockwave/>

Quicktime: <http://www.apple.com/quicktime/download/>

Safari (PC and Mac): <http://www.apple.com/safari/download/>

Adobe PDF Reader: <http://get.adobe.com/reader/>

Open Office (Free): <http://www.openoffice.org/>

Skype: <http://skype.com>



Go buy your textbook and your Mastering Astronomy access. Check everything under the Computer/Software Requirements as outlined in Tech Tutorials > Software

Course Components

Detailed descriptions are contained in the *Course Components* page in D2L > Content > Course Information > *Course Components*.

You'll be asked to participate in the following activities and experiences:

- Reading assignments
- Lectures you will stream or download to watch from D2L
- Interactive *Mastering Astronomy* online Homework
- Activities with worksheets, some are individual some are group assignments
- Online Discussion Forum where you will communicate with classmates and hold a scholarly dialogue
- Quizzes at the end of Module 2, Module 6, Module 8
- Final Exam for Modules 1-9
- *Cosmology in the News* project (writing assignment)



**Go review full descriptions of Course Components
Found in:
D2L > Content > Course Information > Course
Components
There's lots of important info!**

Course Format

Our course runs on a weekly schedule, Thursday (first day) – Wednesday (last day). There is one module per week. Module assignments are due the last day of the module (Wed) at 11:59pm MST.

All times listed in the syllabus and for due dates/class times are Mountain Standard Time, which is Arizona local time. It is the same as the time in California since Arizona does not do daylight savings.

Quizzes and Exams will be released on the Thursday before they are due (Wednesdays 11:59pm MST). They will open for you to take at any time, but you are restricted to a 1-2 hour time limit for taking the quiz/exam.

Being a eight-week Fall session we cover 3 weeks of fall/spring semester content in each session week (two modules). You should expect to devote 2-3 hours per day to course activities M-F and additional hours over the weekend.

There are STRICT deadlines for items being due and no late assignments are accepted without a Dean of Students note or other such item (verifiable doctor's note, death in the family, etc.)

Please find the detailed Course Schedule in D2L > Content > Course Information > *Course Schedule*

If you need a DRC accommodation, please contact Dr. Milne as soon as possible.

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Online Rooms in D2L

An Online Room in D2L allows us to meet live, with audio/screensharing if needed. Office hours take place in Dr. Milne's Office Hours room and there are various other online rooms listed for you to meet. Some are Activity specific and will only be available during certain times. Others, like the 24x7 Meeting Place is available all the time and you use it to meet with classmates if needed.

Online Rooms work best when you have both a microphone/audio available to you. Headsets or earbuds are preferred to help with echo'ing/feedback from audio coming through speakers and back into your mic.

When clicking an Online Room link you might be prompted to download a Java (.jnlp) file. It's ok, just download it and double click it once it is downloaded to access the Online Room successfully. Elluminate Live! might throw you a security certificate warning, click through the options to allow it.

Elluminate Live! Participant Training:

<https://sas.elluminate.com/p.jnlp?psid=2010-06-09.1438.M.D6CFA062B4EFBDFCC960D9A533CFAA.vcr>

Elluminate Live! Guide (PDF):

http://www.elluminate.com/resources/training/104-Elluminate_Live_Participant_Quick_Reference_Guide.pdf



Get help using Online Rooms from D2L > Content > Course Information > Accessing Online Rooms

Assessment & Grades

Grading is absolute and there will be no curves.

Rules:

- As you complete activities and get a grade, you earn points. As you earn points you add them up towards your final grade.
- There are no late Homework or Assignments accepted.
- Discussion posts/replies can be made late, but with a stiff penalty.

Course Activity	# Items	Points/Item	Total Course Points
Homework (Mastering Astronomy)	8	25-50	320
Activities	8	20-30	200
Discussions	4	15	100
Mid-term Exam	1	120	100
Final Exam	1	130	100
Individual Projects	2	65	130
TOTAL COURSE POINTS			1000
1 Extra Credit Assignment			+15 possible

COURSE POINT TOTALS

A: 900-1000 points
B: 800-899 points
C: 700-799 points
D: 600-699 points
F: 599 and below

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. 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 having someone use your UA NetID to access the fully online course will be automatic failure of the course, and depending on the circumstances, I may seek your suspension or expulsion. You can find details of the Code at: <http://deanofstudents.arizona.edu/codeofacademicintegrity>

Official Policies and Procedures

The following sections are University of Arizona Board of Regents policies and procedures that will be adhered to in this course. Please review the Code of Academic Integrity, Student Code of Conduct, and the Non-Discrimination & Anti-Harassment Policy. Any and all interactions between students, instructors, teaching staff, and course managers – everyone involved in this online course – will follow these policies. If you witness a violation of a policy or are a victim of a policy violation, please report it appropriately with the default/information source to be the Dean of Students Office at the UA-Tucson campus.

Code of Academic Integrity

The UA Code of Academic Integrity prohibits all forms of academic dishonesty, including cheating, plagiarism, and fabrication; all students should be familiar with it and follow it in this class. The Code also informs faculty, teaching staff, and students on the procedures and due process for violations of the Code.

Please review the full Code of Academic Integrity here:

<http://deanofstudents.arizona.edu/codeofacademicintegrity>

Tips for avoiding Academic Dishonesty:

<http://deanofstudents.arizona.edu/tipsforavoidingacademicdishonesty>

Student Code of Conduct Philosophy

The aim of education is the intellectual, personal, social, and ethical development of the individual. The educational process is ideally conducted in an environment that encourages reasoned discourse, intellectual honesty, openness to constructive change, and respect for the rights of all individuals. Self-discipline and a respect for the rights of others in the university community are necessary for the fulfillment of such goals. The Student Code of Conduct is designed to promote this environment at each of the state universities.

The Student Code of Conduct sets forth the standards of conduct expected of students who choose to join the university community.

Students who violate these standards will be subject to disciplinary sanctions in order to promote their own personal development, to protect the university community, and to maintain order and stability on campus.

Find the full Student Code of Conduct here:

<http://deanofstudents.arizona.edu/policiesandcodes/studentcodeofconduct>



Visit and review the Code of Academic Integrity, Student Code of Conduct, and the Tips for Avoiding Academic Dishonesty, links above

Non-Discrimination and Anti-Harassment Policy

The University of Arizona is committed to creating and maintaining an environment free of discrimination, harassment, and retaliation that is unlawful or prohibited by University policy. The University prohibits discrimination, including harassment and retaliation, by University employees, students, contractors, or agents of the University and by anyone participating in a University sponsored activity against an individual based on a protected classification. Protected classification includes race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity, or other protected category. The University also prohibits retaliation because an individual has engaged in a protected activity.

The University will take prompt and appropriate action to: (1) thoroughly investigate complaints under this policy; and (2) prevent, correct and, if necessary, discipline individuals who engage in behavior that violates this policy in accordance with University policies. All members of the University community are responsible for participating in creating a campus environment free from all forms of prohibited discrimination and for cooperating with University officials who investigate allegations of policy violations.

See the full policy here: http://equity.arizona.edu/non-discrimination_anti-harassment

University Resources

Even though you are an online student, you are still a student of the University of Arizona and a member of the UA community. Even at a distance you may need help and assistance so please do not hesitate to contact on-campus departments. Here is a list you may find helpful:

Dean of Students: <http://deanofstudents.arizona.edu/>

Campus Health: <http://www.health.arizona.edu/>

Counseling and Psychological Services: <http://www.health.arizona.edu/caps.htm>

Office of Instruction and Assessment: <http://oia.arizona.edu/>

University Information Technology Services: <http://www.uits.arizona.edu/>

LGBTQ Affairs: <http://deanofstudents.arizona.edu/LGBTQaffairs/home>

UA Parents and Family Programs: <http://uafamily.arizona.edu/>

Student Advocacy and Assistance: <http://deanofstudents.arizona.edu/studentassistanceandadvocacy>

Women's Resource Center: <http://wrc.arizona.edu/>

Disability Resource Center: Disability is an aspect of diversity that is integral to our society and to the University of Arizona campus community. The Disability Resource Center collaborates with students, faculty and staff to create educational environments that are usable, equitable, sustainable and inclusive of all members of the university community. However, if you encounter academic or physical barriers on campus, DRC staff is available to partner with you in finding good solutions or to implement reasonable accommodations. If you need DRC resources or accommodations, please see the DRC website for contact information: <http://drc.arizona.edu/>