

**ASTRONOMY 162 – INTRODUCTION TO STELLAR, GALACTIC, AND
EXTRAGALACTIC ASTRONOMY
COURSE INFORMATION
WINTER QUARTER 2012**

Lecturer:

Office: xxxx McPherson Laboratory (MP xxxx), 292-xxxx

Office Hours:

Email: xxxx.nn@osu.edu

TA:

Office:

Office Hours:

Email:

Classroom:

Class Hours:

Textbook: *Astronomy Today*, 7th edition, by Chaisson and McMillan. This will be the textbook for both Astron 161 and Astron 162.

Intended Audience for this Course:

This course is intended primarily for non-science majors who wish to meet a GEC natural science requirement or who are just generally interested in modern astronomy.

- *Arts and Sciences students:* This course will count towards your GE natural science-sequence requirement *only* if you are seeking a Bachelor of Arts degree.
- *Natural science majors:* You may wish to take a calculus-based introductory sequence, Astron 291–292, which is offered in the Autumn and Winter quarters.
- *Honors students:* You may wish to take the honors courses Astron H161–H162. The sections are much smaller and are discussion-oriented rather than lecture format.

Astron 162 in the General Education Curriculum (GEC)

Astron 161 and 162 may count towards fulfilling the Natural Science requirement in the Physical Science category of the GEC curriculum. The goals of the Natural Science coursework foster students' understanding of the principles, theories, and methods of modern science, the relationship between science and technology, the implications of scientific discoveries and the potential of science and technology to address problems of the contemporary world. The expected learning outcomes for GEC Natural Sciences courses are as follows:

1. Students understand the basic facts, principles, theories, and methods of modern science.
2. Students learn key events in the history of science.
3. Students provide examples of the inter-dependence of scientific and technological developments.
4. Students discuss social and philosophical implications of scientific discoveries and understand the potential of science and technology to address problems of the contemporary world.

The specific learning goals and objectives for Astron 162 (and how they map into the GEC expected outcomes) are:

- Understanding the nature of stars and planets that orbit other stars (addresses outcomes 1, 2, 3, and 4).
- Understanding the structure of our Galaxy and its substructures and how human understanding developed with improvements in technology (addresses outcomes 1, 2, 3, and 4).
- Understanding nucleosynthesis and the evolution of stars (addresses outcomes 1, 2, 3, and 4).
- Understanding the basic principles of the formation of stars and stellar systems (addresses outcomes 1 and 3).
- Understanding galaxies as the basic building blocks of large-scale structure in the Universe (addresses outcome 1).
- Understanding the development of modern view of cosmology and implications of dark matter and dark energy and the future of the universe (addresses outcomes 1, 2, 3, and 4)

Course Prerequisites:

Astron 161.

Grades, Exams, and Other Unpleasantness:

Evaluation:

Grades will be based almost entirely on performance on examinations.

- *Regular examinations:* There will be five examinations given during the regularly scheduled class period during the quarter. The total value of all the regular exams will be 70% of the final grade.
- *Final exam:* There will be a comprehensive final examination that will count for 30% of your final grade.

In general, there will be *no* make-up examinations (see below), so you are allowed to miss *one and only one* of the five regular examinations during the semester; if you take all four examinations, your lowest score will be dropped and your grade will be based on your four best examination scores. Each of the three regular examinations will count 17.5% towards your final grade (i.e., the sum of your three best examinations counts for 70% of your final grade). The final examination counts for the remaining 30%.

Grading Scale:

Grades will be on a curve, although you must have an average of at least 45.00% to pass the course, regardless of how the grades are distributed. A sample grading scale is given on the class website.

Format of the Examinations:

The exams will be multiple-choice format, although the professor reserves the right to make (announced) changes if it is deemed to be appropriate. Please note that you will be required to show a picture ID at each exam (see section below on “Academic Misconduct”). Also, you are expected to keep the original copies of the regular exams: without these you will be unable to check your exam results. These are also useful for future study. Also, if grading problems occur, the professor may request the original copy of your examination; failure to produce it if requested *could* result in you receiving a zero for that examination if the problem cannot be resolved.

- *Regular Examinations:* Tests will be given approximately every two weeks. The tests will take the entire class period. Tests are scheduled for (1) Friday, 13 January, (2) Friday, 27 January, (3) Friday, 10 February, (4) Friday, 24 February, and (5) Thursday, 8 March. As described above, you may miss or drop one examination; if you take all five exams, only your four best scores will count towards your grade.
- *Final Examination:* A comprehensive two-hour final examination will be given on TBD. The final examination, which is mandatory, will account for 30% of the course grade.

Make-up Examinations and Scheduled Absences:

Since you are allowed to miss or drop one examination, in general make-up examinations will not be given. Make-up examinations will be allowed for a second missed exam only under truly extraordinary circumstances only (as determined by the professor), e.g., serious illness (as verified by a physician), or personal tragedy. The format of make-up tests will be at the discretion of the professor (i.e., they may not necessarily be multiple-choice). Please also understand that the professor will be decidedly unsympathetic to the following oft-heard line of argument: “I decided that I'd drop the second test, and then I got sick so I missed the fourth test, so can I take a make-up?” The answer is “no, you may not.” It is not for you to decide to drop a test, it will be more likely determined by microbes or what insurance companies call an “Act of God.” Do *not* plan to miss an exam.

If an examination conflicts with an approved University function (e.g., if you are a member of a varsity athletic team or *TBDBITL* and are required to leave town), you may take an exam earlier than the scheduled date, provided that you obtain permission from the professor at least a week in advance.

If you should miss the final examination, your course grade will be recorded as a failure unless you contact the professor (by phone, if necessary) before 9 a.m. on Thursday, 16 March and arrange to take the final at the beginning of Spring Quarter — in this case you will receive a grade of incomplete, which will revert to a failing grade if you do not make up the examination as arranged.

Additional Information:

Roof Nights:

Roof nights constitute what might be called a casual laboratory for this course — the telescopes on the roof of Smith Lab will be opened for you to enjoy the splendor of the Universe (or at least the inner Solar System) firsthand. These will take place on Wednesday evenings, weather permitting (optical telescopes can't see through clouds) on dates to be announced.

The Roof Night schedule can be accessed through the class webpage.

Review Sessions:

If there is sufficient interest, we will schedule late-afternoon or evening review sessions prior to the regular exams.

Academic Misconduct:

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct (http://studentaffairs.osu.edu/info_for_students/csc.asp).

Evidence that academic misconduct has occurred will be turned over to the Committee on Academic Misconduct for disposition.

Students with Disabilities:

Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated, and should inform the instructor as soon as possible of their needs. The Office for Disability Services is located in 150 Pomerene Hall, 1760 Neil Avenue; telephone 292-3307, TDD 292-0901; <http://www.ods.ohio-state.edu/>.

IMPORTANT: IT IS THE RESPONSIBILITY OF THE STUDENT TO BE FAMILIAR WITH ALL OF THE INFORMATION CONTAINED HERE. STUDENTS ARE ALSO RESPONSIBLE FOR ANY CORRECTIONS OR ADDENDA ANNOUNCED IN CLASS.

Astronomy 162				
Introduction to Stellar, Galactic, and Extragalactic Astronomy				
Week	Date	Day	Topic	Text
1	3-Jan	T	Review of Light and Spectroscopy	Chapter 4
	4-Jan	W		
	5-Jan	R	The Sun	Chapter 16
	6-Jan	F		
2	9-Jan	M		
	10-Jan	T	Properties of Stars	Chapter 17
	11-Jan	W		
	12-Jan	R		
	13-Jan	F	First Examination	
3	16-Jan	M	MLK Day - NO CLASS	
	17-Jan	T		
	18-Jan	W		
	19-Jan	R		
	20-Jan	F		
4	23-Jan	M	The Interstellar Medium	Chapter 18
	24-Jan	T		
	25-Jan	W	Star Formation	Chapter 10
	26-Jan	R		
	27-Jan	F	Second Examination	
5	30-Jan	M	Stellar Evolution	Chapter 20
	31-Jan	T		
	1-Feb	W		
	2-Feb	R		
	3-Feb	F		
6	6-Feb	M	Stellar Explosions	Chapter 21
	7-Feb	T	Stellar Remnants	Chapter 22
	8-Feb	W		
	9-Feb	R	Our Galaxy, The Milky Way	Chapter 23
	10-Feb	F	Third Examination	
7	13-Feb	M		
	14-Feb	T		
	15-Feb	W		
	16-Feb	R	Galaxies	Chapter 24
	17-Feb	F		
8	20-Feb	M		
	21-Feb	T		
	22-Feb	W		
	23-Feb	R	Galaxies and Dark Matter	Chapter 25
	24-Feb	F	Fourth Examination	
9	27-Feb	M		
	28-Feb	T		
	29-Feb	W		
	1-Mar	R	Cosmology	Chapter 26
	2-Mar	F		
10	5-Mar	M		
	6-Mar	T	The Early Universe	Chapter 27
	7-Mar	W		
	8-Mar	R	Fifth Examination	
	9-Mar	F	Review Session	
11	TBD		Final Examination	