ASTRONOMY 112 – Fall 2011 – Mesa Community College, Southern & Dobson campus

What: Introduction to Stars, Galaxies, & Cosmology
Where: Physical Science Building, 1st Floor, Room PS 103
When: Tuesdays & Thursdays 1:30 – 2:45pm (Section 29172)
(No class on November 24)
Instructor: Dr. Kevin Healy Phone: 480-461-7027
Email: khealy@mesacc.edu
Office: PS 223 (Physical Science, 2nd floor, south of elevator)
Office Hours: Monday through Friday, 11:00am – 12:00pm, by appointment, or just drop by!
Course Webpage: http://www.mesacc.edu/~khealy/ast112.html (semester schedule posted here)

Course Description: Introduction to the field of astronomy for the non-science major. History of astronomy, astronomy as a physical science, properties of light, telescopes, structure and evolution of stars, structure of the Milky Way galaxy and other galaxies, history of the Universe. 3 credits. Prerequisite: MAT 92 or equivalent

Astronomy stands alongside physics, chemistry, and geology as a physical science. Our modern understanding of the Universe comes from applying our knowledge of the other physical sciences to astronomical phenomena. AST 112 covers the Universe outside of the Solar System and stars and their properties, life and death of stars, galaxies, and cosmology. AST 111 focuses on the Solar System and historical astronomy, the planets, the Sun, and other planetary systems. These courses can be taken in either order (AST 111 then 112, or vice versa), and with or without the accompanying lab course. Consult your program of study to determine if you need lab credit.

Neither AST 112 nor AST 111 should be considered Skywatching 101. AST 112 will include the motions and objects of the daytime and nighttime sky, but we will spend much more time discussing what astronomers have discovered about the Universe through telescopic observations, computer simulations, and laboratory experiments.

Goals of the Course:
- To apply the scientific method to astronomical phenomena in order to describe and explain the Universe around us.
- To gain greater familiarity with the night sky and our Universe.
- To learn how astronomers interpret electromagnetic radiation to discover more about the Universe.
- To appreciate that astronomy is a rapidly changing, exciting field of discovery.

Text: The Cosmic Perspective: Stars, Galaxies, & Cosmology, 6th edition, by Bennett et al. The textbook is required and available in the MCC Bookstore, online as e-text, and from other retailers.

Text Supplement: Student Access Kits for the Mastering Astronomy website are bundled with new copies of The Cosmic Perspective in the MCC Bookstore. Mastering Astronomy will be used for online homework assignments. If you purchase a used copy of the textbook, you can purchase a Mastering Astronomy Student Access Kit (SAK) separately by asking at the counter in the MCC Bookstore or using a credit card through the website www.masteringastronomy.com. There is additional information about Mastering Astronomy on a separate handout.
Succeeding in Astronomy: Please see pages xxiv-xxv in the textbook for many good suggestions.

Here are my top picks:

- **What you get out of the course will depend on the effort you put in!** Working on homework, the reading, and studying should take you about 6 to 9 hours per week outside of class. If you are struggling in the course, it is likely you are spending too little time on it.

- Read the textbook like a dictionary or an encyclopedia, not a novel. Don’t start on page 1 and read to the end. Pick a section or a page and browse through it. Then read it again taking notes and thinking about the concepts. Do you understand what you read? If not, ask in class!

- The successful student will make a habit of asking questions to ensure they understand the material being discussed. **The only dumb questions are the ones you don’t ask!**

- **Do a little at a time.** Read a section, not the whole chapter, in one sitting. Review all the time; don’t cram before a quiz. Do a question each day; don’t do all the homework Sunday afternoon.

- Don’t study alone. Find a classmate or two to work with on homework or studying concepts.

Withdrawal: Mesa Community College is very accommodating about withdrawal. Before September 5, you can withdraw yourself from the course online or by contacting the Registrar’s Office. After September 5, you must contact me to withdraw from the course.

*Students who are not making “sufficient progress” in class may be withdrawn by the instructor.*

“Sufficient progress” means a minimum of 300 points earned by October 14 (end of 8th week) and a minimum of 600 points earned by December 9 (end of 16th week).

Office Policy: I maintain an open-door policy for my office hours. Stop by and ask questions or just chat about astronomy. If my office hours do not fit into your schedule, you can also make an appointment. Between classes I am also in my office much of the time. However, if the door is closed, please do not disturb by knocking!

You can also contact me at khealy@mesacc.edu. I do not read or respond to student emails on weekends. If you have a question, be sure to ask it during the week.

Attendance: I only record daily attendance during the first week of class. It is the student’s responsibility to attend class, study for quizzes, and keep up with the reading and homework.

I understand all students have busy schedules and sometimes missing class is unavoidable. That is why I drop two quizzes and why I do not enforce attendance. However, successful students develop a habit of attending every possible class period. It’s not magic: learning takes time!

Cell phones, laptops, and other electronics are not allowed in class: Unless you are expecting a baby, news about a Nobel Prize, or a call from the state lottery, you won’t need to communicate with anyone outside of class during class time.

Before class begins, silence your phone and turn off your music and your laptop. Anyone texting, checking email, logged into Facebook, or playing games during class will be asked to leave. This is common courtesy to me and to your fellow students. *Class time is for astronomy!*
Grading: Your semester grade will be based on the points you earn from 5 categories:

<table>
<thead>
<tr>
<th>Category</th>
<th>Points</th>
<th>Grade Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework Assignments (15 @ 20 points each)</td>
<td>300 points</td>
<td>900 – 1000 pts. = A</td>
</tr>
<tr>
<td>Bi-weekly Quizzes (top 6 scores @ 50 points each)</td>
<td>300 points</td>
<td>800 – 899 pts. = B</td>
</tr>
<tr>
<td>In-Class Activities (15 @ 10 points each)</td>
<td>150 points</td>
<td>700 – 799 pts. = C</td>
</tr>
<tr>
<td>Attend Astronomy Events (2 @ 25 points each)</td>
<td>50 points</td>
<td>600 – 699 pts. = D</td>
</tr>
<tr>
<td>Final Comprehensive Exam</td>
<td>200 points</td>
<td>599 or less = F</td>
</tr>
</tbody>
</table>

Total: 1000 points

- **Homework Assignments** will be assigned each week from the Mastering Astronomy website, www.masteringastronomy.com. These assignments contain questions of different types: multiple choice, true-false, labeling, vocabulary, ranking, and sorting.

  *Keeping up with the homework is important!* Homework is worth 300 points or 3 letter grades! Working homework problems will also help you understand the material for that week of class, improve your quiz scores and your score on the end-of-semester final exam.

  There will be 15 assignments. Each is worth 20 points = 300 points total

- **Bi-weekly Quizzes** will occur at the beginning of class on Tuesdays roughly every two weeks. Each quiz will cover the material from the previous two weeks of class. I drop your two lowest quiz scores so there will be no make-ups for missed quizzes.

  Out of 8 quizzes, I keep the top 6 quiz scores. Each is worth 50 points = 300 points total

- **In-Class Activities** will be handed out regularly and some will be collected for points. Activities will be checked for completeness and awarded 10 points or zero points. Responses will be spot-checked for accuracy, but not graded. Neither partial credit nor late credit will be given.

  Complete 15 activities for 10 points each = 150 points total

- **Astronomy Events** will be announced in class. There will be opportunities to observe the night sky here at MCC and around the East Valley. These events will occur outside of class time, but will be spread throughout the week. There will be enough opportunities throughout the semester that no one should have difficulty attending 2 of them. Additional information is provided in a separate handout.

  Attend 2 Astronomy Events for 25 points each = 50 points total

- **Final Comprehensive Exam** is an end-of-semester review of the entire course. The final exam includes questions that are equivalent to those on the quizzes and on the homework. There are no surprises in the final exam; if you’ve followed along during the semester, the final exam will be straightforward. The final exam is worth 200 points.

  The Final Exam is scheduled for Thursday, December 15 from 1:30 to 3:20pm in PS 103.

- **Extra Credit** opportunities occur throughout the semester. These events will be announced in class and on-line. The maximum extra credit you can earn is 50 points.
Disability Accommodation: Disability Resources and Services provides a wide range of services for persons with disabilities. Any reasonable accommodations for limitations due to disability will be considered. To receive services and accommodations through Disability Resources and Services, students must provide documentation stating a diagnosis or disability. Please contact the instructor to discuss any special needs or to schedule a regular meeting time outside of class.

Academic Honesty Statement: Students are responsible for knowing and complying with the academic conduct policies established by Mesa Community College. In a lecture class, this involves completing your own homework assignments, completing your own in-class activities, and answering your quiz without help from a classmate. Punishment for violating academic conduct policies will be swift and decisive, up to a failing grade on an assignment or for the whole course.

MCC Early Alert Program (EARS): Mesa Community College is committed to the success of all our students. Numerous campus support services are available throughout your academic journey to assist you in achieving your educational goals. MCC has adopted an Early Alert Referral System (EARS) as part of a student success initiative to aid students in their educational pursuits. Faculty and Staff participate by alerting and referring students to campus services for added support. Students may receive a follow-up call from various campus services as a result of being referred to EARS. Students are encouraged to participate, but these services are optional.

The Early Alert Web Page with Campus Resource Information can be located at:

http://www.mesacc.edu/students/ears

or locate the “Early Alert” selection at the “mymcc” link from MCC’s home page.

This Class Syllabus contains tentative dates and course information that may be changed to meet the needs of the course.

Bottom line: If you have questions or concerns about AST 112, please let me know!
I am here to help you succeed in astronomy!