



HOUSTON COMMUNITY COLLEGE SOUTHWEST

COURSE OUTLINE FOR

ASTR 1303 – Introduction to Stars and Galaxies

Discipline/Program	Astronomy
Course Level	First Year (Freshman)
Course Title	Introduction to Stars and Galaxies
Course Rubric and Number	ASTR 1303
Semester with Course Reference Number (CRN)	Summer I, 2018 CRN# 70975
Course Location/Times	Distance education
Course Semester Credit Hours (SCH) (lecture, lab)	3(3 lecture)
Total Course Contact Hours	48
Course Length (number of weeks)	5
Type of Instruction	Distance education (Internet – Eagle Online/Moodle) course
Instructor contact information (phone number and email address)	Dr. Christina del Cerro Office Phone: 713-718-7773 E-mail: christina.delcerro@hccs.edu (To be used only in a real emergency). Otherwise, use Canvas e-mail system
Office Location and Hours	Room S115 Scarcella Building (Stafford Campus). Normal Office hours (8:00 AM – 5:00 PM) M,T,W,TH by appointment only
Course Description: ACGM or WECM Link to this site	Study of stars, galaxies, and the universe outside our solar system. May or may not include a laboratory. (Cross-listed as PHYS 1403, 1303, & 1103)
Course Description: HCC Catalog Description	An introduction to the present cosmological theories about the structure and evolution of the universe. A comparison with previous models since antiquity. A study of the celestial sphere and the constellations, the motions in the sky. A study of gravity, light, radiation, optics, telescopes and spacecraft. A survey of the stars, clusters, galaxies, superclusters, their properties, structure and evolution. Laboratory includes an introduction to observational techniques using telescopes, in-class projects/exercises on spectroscopy, stellar positions, solar heating, planetary motions, solar and astrophotography, star clusters, galaxies, and cosmology.
Course Prerequisite(s)	GUST 0341 (or higher) in reading and placed into Math 0312 (or take Math0308 as a co-requisite). Credit: 3 (3 lecture)
Academic Discipline Program Learning Outcomes	1 Program SLO #1: Demonstrate understanding of the fundamental concepts of astronomy. Demonstrate understanding of the fundamental principles underlying astronomy including concepts and methods of inquiry at an appropriate level. Topics include,

	<p>but are not limited to, the Scientific Method, Newtonian Mechanics, Solar Astronomy and Stars and Galaxies.</p> <p>2 Program SLO #2: Solve simple conceptual and numerical problems in Astronomy.</p> <p>Solve conceptual and numerical problems through the recognition of the type of problem at hand, analysis of relevant information, proper application of concepts and techniques applying mathematical tools at an appropriate level. Students should demonstrate improvement in problem solving skills as they progress through courses in the program.</p> <p>3. Program SLO#3 Demonstrate appropriate laboratory skills</p> <p>Demonstrate appropriate laboratory skills including proper use of basic measuring devices, interpretation of laboratory directions and analysis of data obtained using appropriate tools, such as graphical/tabular methods using computers.</p> <p>4. Program SLO #4: Develop interpersonal communication skills</p> <p>Demonstrate an ability to work independently and/or as part of a team through participation in laboratory activities as well as assigned projects.</p>
<p>Course Student Learning Outcomes (SLO)</p>	<p>Upon successful completion of this course the student should be able to:</p> <ol style="list-style-type: none"> 1. Develop an appreciation for the nature of science and the scientific method. 2. Demonstrate an understanding of the modern theories about the origins, structure and evolution of our star, the Sun, and other stars, galaxies and the universe as a whole. 3. Understand properties of stars, and galaxies. 4. Apply the scientific method to the study of the universe, and in varying degrees, to the student's own interest and particular field of work or study

Learning Objectives (Numbering system linked to SLO)	Upon completion of this course the student should be able to: 1.1 Compare and contrast the size of the planet Earth to the size of the solar system and the Milky Way Galaxy. 1.2 Distinguish among astronomical unit, light year and parsec. 1.3 Name a few of the constellations, and relate brightness of stars to their size and distance. 1.4 Describe the cycles of the moon and state the conditions for solar and lunar eclipses.
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	Week	Assignments
	1 and 2	CH1: The Scale of the Cosmos: Here and Now CH2: The Sky Homework Chapters 1 and 2. Opens 06/06, 8:00 AM, Closes 06/07, 11:30 PM CH3: The Cycles of the Moon Homework Chapter 3. Opens 06/08, 8:00 AM, Closes 06/09, 11:30 PM CH4: The Origins of Modern Astronomy CH5: Gravity Homework Chapters 4 and 5. Opens 06/10 8:00 AM, Closes 06/11, 11:30 PM CH6: Light and Telescopes Homework Chapter 6. Opens 06/12, 8:00 AM, Closes 06/13, 11:30 PM CH7: Atoms and Starlight CH8: The Sun Homework Chapters 7 and 8. Opens 06/14 8:00 AM, Closes 06/15, 11:30 PM Test I Chapters 1 to 6, Online. Opens 06/16 at 8:00 AM, closes 06/17 at 11:30 PM
	3	CH 9: The Family of Stars CH10: The Interstellar Medium Homework Chapters 9 and 10. Opens 06/18, 8:00 AM, Closes 06/19, 11:30 PM CH 11: Formation and Structure of Stars CH12: Stellar Evolution. Homework Chapters 11 and 12. Opens 06/20, 8:00 AM, Closes 06/21, 11:30 PM CH13: The Death of Stars Homework Chapter 13. Opens 06/22, 8:00 AM, Closes 06/23, 11:30 PM Test II Chapters 7 to 12, Online. Opens 06/22 at 8:00 AM, closes 06/23 at 11:30 PM
	4	CH14: Neutron Stars and Black Holes. Homework Chapter 14. Opens 06/24, 8:00 AM, Closes 06/25, 11:30 PM CH15: The Milky Way Galaxy Homework Chapter 15. Opens 06/26, 8:00 AM, Closes 06/27, 11:30 PM CH16: Galaxies CH17: Active Galaxies and Super Massive Black Holes Homework Chapters 16 and 17. Opens 06/28, 8:00 AM, Closes 06/29, 11:30 PM CH 18: Modern Cosmology
		Test III Chapters 13 to 17, Online Opens 06/30 8:00 AM, closes 07/01 at 11:30 PM CH 18: Modern Cosmology Homework Chapter 18. Opens 07/02, 8:00 AM, Closes 07/03 11:30 PM
	5	FINAL EXAMINATION (Comprehensive) , Online , Opens 07/03 at 8:00 AM, closes 07/05 at 11:30 PM 2.1 Explain the difference between heliocentric and geocentric modelsof the universe. 3.1 Demonstrate knowledge of the basic laws of physics that pertain to the study of stars and galaxies. 3.2 Classify stars according to the luminosity temperature(Hertzsprung-Russell) diagram.

	<p>3.3 Write a summary of the different stages in star development, including its birth, life, and death.</p> <p>3.4 Understand properties of galaxies and how these properties are determined</p> <p>4.1 Demonstrate knowledge of the nature of expansion of the universe and what can be learnt from its expansion about the past, the present and the future of the universe.</p>
<p>SCANS and/or Core Curriculum Competencies</p>	<p>Reading, Speaking/Listening, Critical Thinking, Computer/Information Literacy</p>
<p>Tentative Course Schedule. May be Subject to Change as Term Progresses.</p>	<p>--</p>

Important Dates	<p>JUNE 2018</p> <table border="1"> <thead> <tr> <th>Date</th> <th>Event</th> </tr> </thead> <tbody> <tr> <td>Jun 1</td> <td>Summer 2018 1st 5-Wk: Last Day for 100% refund</td> </tr> <tr> <td>Jun 4</td> <td>Summer 2018 1st 5-Wk: Classes Begins</td> </tr> <tr> <td>Jun 7</td> <td>Summer 2018 1st 5-Wk: Official Day of Record</td> </tr> <tr> <td>Jun 8</td> <td>Summer 2018 1st 5-Wk: Last Day for 70% refund</td> </tr> <tr> <td>Jun 11</td> <td>Summer 2018 1st 5-Wk: Last Day for 25% refund</td> </tr> <tr> <td>Jun 25</td> <td>Summer 2018 1st 5-Wk: Last day to withdraw</td> </tr> </tbody> </table> <p>JULY 2018</p> <table border="1"> <thead> <tr> <th>Date</th> <th>Event</th> </tr> </thead> <tbody> <tr> <td>Jul 3</td> <td>Summer 2018 1st 5-Wk: Last day of instruction</td> </tr> <tr> <td>Jul 8</td> <td>Summer 2018 1st 5-Wk: Semester Ends</td> </tr> </tbody> </table>	Date	Event	Jun 1	Summer 2018 1st 5-Wk: Last Day for 100% refund	Jun 4	Summer 2018 1st 5-Wk: Classes Begins	Jun 7	Summer 2018 1st 5-Wk: Official Day of Record	Jun 8	Summer 2018 1st 5-Wk: Last Day for 70% refund	Jun 11	Summer 2018 1st 5-Wk: Last Day for 25% refund	Jun 25	Summer 2018 1st 5-Wk: Last day to withdraw	Date	Event	Jul 3	Summer 2018 1st 5-Wk: Last day of instruction	Jul 8	Summer 2018 1st 5-Wk: Semester Ends
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Instructional Methods	Distance Education – Internet Moodle will be used as the Learning Management System.																				
Student Assignments	Homework questions sets will be assigned after a stipulated completion time of every chapter. Please read through the chapter lecture notes and chapter reviews before you attempt the homework/quizzes. You are strongly advised to attempt all assignments and meet the dead line for each assignment. In general, students who fail to do these assigned questions sets do not do well in the course.																				
Student Assessment(s)	<p>The overall score is based on the following:</p> <ul style="list-style-type: none"> • Three regular Tests (20% each) 60% • Chapter Homework 20% • Final Exam 20% <p>Overall Score = 0.6 (Average of three regular exams) + 0.2(Homework Grade) + 0.20 (Final Exam)</p>																				
Instructor’s Requirements <ul style="list-style-type: none"> • Exams and Make-up Policy • Respondus LockDown Browser 	<p><u>Exams and Make-up Policy</u></p> <p>Examinations will consist of three non-cumulative regular exams (20%) each, plus a comprehensive final (20%). Make-up exams will not be given and homework assignments will not be reopened once the due date has expired. Therefore make every effort to complete all assignments on their scheduled dates. In the event that you must miss a regular exam, I will count the grade made on the final exam as the grade for the missed exam (for one missed exam only), and calculate the final course grade accordingly. If you do not miss any of the regular exams, the lowest exam score will be replaced by your final exam score if the final exam grade is higher. This is intended to provide you a "second chance" if you do not do well on a particular exam. Remember that the final exam will be comprehensive (meaning that it will cover all of the material from the whole semester, not just the last part). Please note that all students are required to take the final (no student can be exempted).</p>																				

	<p><u>Respondus LockDown Browser</u></p> <p><u>Using LockDown Browser for Online Exams</u></p> <p>This course requires the use of LockDown Browser for online exams. Watch this short videos to get a basic understanding of LockDown Browser and the optional webcam feature (which may be required for some exams). Then download and install LockDown Browser from this link:</p> <p>Download the LockDown Browser for Windows/Mac</p> <p>To take an online test, start LockDown Browser and navigate to the exam. (You won't be able to access the exam with a standard web browser.)</p> <p>For additional details on using LockDown Browser, review this Student Quick Start Guide (PDF).</p> <p>Finally, when taking an online exam, follow these guidelines:</p> <ul style="list-style-type: none"> • Select a location where you won't be interrupted • Before starting the test, know how much time is available for it, and that you've allotted sufficient time to complete it • Turn off all mobile devices, phones, etc. and don't have them within reach • Clear your area of all external materials — books, papers, other computers, or devices • Remain at your desk or workstation for the duration of the test • LockDown Browser will prevent you from accessing other websites or applications; you will be unable to exit the test until all questions are completed and submitted
Program/Discipline Requirements	At the program level, the Astronomy Discipline strives to accomplish the Program Learning Outcomes, Student Learning Outcomes, and Learning Objectives as described above. We desire that you receive a challenging and rewarding experience in your astronomy classes at HCC which will prepare you well for future Astronomy and related science courses that you may take in the future.
HCC Grading Scale	A = 100 – 90;4 points per semester hour B = 89 – 80:3 points per semester hour C = 79 – 70:2 points per semester hour D = 69 – 60:1 point per semester hour 59 and below = F.....0 points per semester hour Fail to withdraw before the withdrawal date = FX ... 0 points per semester hour IP (In Progress)0 points per semester hour W(Withdrawn).....0 points per semester hour I (Incomplete).....0 points per semester hour AUD (Audit)0 points per semester hour IP (In Progress) is given only in certain developmental courses. The student must re-enroll to receive credit. COM (Completed) is given in non-credit and continuing education courses. To compute grade point average (GPA), divide the total grade points by the total number of semester hours attempted. The grades “IP,” “COM” and “I” do not affect GPA.
Instructor Grading Criteria	See the above descriptions of the lab, exams, quizzes, and final. The course grade is based on these four criteria according to the Assessment section above.
Instructional Materials	<u>Textbook</u>



Stars and Galaxies, 9th Edition

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**HCC Policy Statement:
ADA
Academic Honesty
Student attendance
3-peaters
Withdrawal deadline**

Access Student Services Policies on their Web site:
<http://hccs.edu/student-rights>

Disability Support Services (DSS)

“Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the Disability Services Office at the respective college at the beginning of each semester. Faculty are authorized to provide only the accommodations requested by the Disability Support Services Office.”. Please, note that your instructor will be able to provide the accommodations **AFTER he/she receives the proper documentation from the ADA Office**, i.e., accommodations are not retroactive to the date the accommodation letter may have been issued by the ADA Office.

If you have any special needs or disabilities which may affect your ability to succeed in college classes or participate in any college programs or activities, please contact the [Ability Services offices](#) for assistance. Under the link provided, you will find contact for advisors throughout the system.

Academic Honesty

Students are responsible for conducting themselves with honor and integrity in fulfilling course requirements. Penalties and/or disciplinary proceedings may be initiated by College System officials against a student accused of scholastic dishonesty. “Scholastic dishonesty” includes, but is not limited to, cheating on a test, plagiarism, and collusion.

“Cheating” on a test includes:

- Copying from another student’s test paper;
- Using materials during a test that are not authorized by the person giving the test;
- Collaborating with another student during a test without authority;
- Knowingly using, buying, selling, stealing, transporting, or soliciting in whole or part the contents of an administered test;
- Bribing another person to obtain a test that is to be administered.

“Plagiarism” means the appropriation of another’s work and the unacknowledged incorporation of that work in one’s own written work offered for credit.

“Collusion” means the unauthorized collaboration with another person in preparing written work offered for credit

Attendance Policy

As stated in the HCC Catalog, all students are expected to attend classes regularly. Students in DE courses must log into their Blackboard class or they will be counted as absent. Just like an on-campus class, your regular participation is required.

Although it is the responsibility of the student to withdraw officially from a course, the professor also has the authority to block a student from accessing Blackboard, and/or to withdraw a student for excessive absences or failure to participate regularly.

DE students who do not log into their Eagle Online class and complete their syllabus quiz before the Official Day of Record will be automatically dropped for non-attendance.

Completing the DE online orientation does not count as attendance.

Policy Regarding Multiple Repeats of a Course

“NOTICE: Students who repeat a course three or more times may soon face significant tuition/fee increases at HCC and other Texas public colleges and universities. If you are considering course withdrawal because you are not earning passing grades, confer with your instructor/counselor as early as possible about your study habits, reading and writing homework, test-taking skills, attendance, course participation, and opportunities for tutoring or other assistance that might be available.”

Last Day for Administrative and Student Withdrawals

For Summer I 2018, 5-weeks classes, this date is **June 25, 2018**. I urge any student who is contemplating withdrawing from the class to consult me first! You may be doing better than you think. Either way, I want to be accessible and supportive. I do not believe in "weed out" classes, and I consider you to be much more than just a name or number! Note my office hours above; if you need in person assistance, I'm here to help. Note that after this date you cannot withdraw from the course nor can I withdraw you from the course. You have to decide before this date.

Policy Regarding Withdrawals

Students desiring to withdraw from a class must do so by the above withdrawal date by filling out a **withdrawal form** at the registrar’s office. *After this date, instructors can no longer enter a grade of “W” for the course for any reason.*

Distance Education and/or Continuing Education Policies	The Distance Education Student Handbook contains policies and procedures unique to the DE student. Students should have reviewed the handbook as part of the mandatory orientation. It is the student's responsibility to be familiar with the handbook's contents. The handbook contains valuable information, answers, and resources, such as DE contacts, policies and procedures (how to drop, attendance requirements, etc.), student services (ADA, financial aid, degree planning, etc.), course information, testing procedures, technical support, and academic calendars. Refer to the DE Student Handbook by visiting this link: http://de.hccs.edu/de/de-student-handbook
Test Bank	N/A
Scoring Rubrics	Regular Tests, Homework sets, and the Final exam will consist of multiple-choice and essay type questions. These are graded in the standard manner.
Sample Assignments	N/A
Sample Instructional Methods/Activities	See the PowerPoints, posted on EO, for an overview of the content of each chapter