



**HOUSTON COMMUNITY COLLEGE SOUTHEAST  
Department of ASTRONOMY**

**COURSE OUTLINE FOR "STARS AND GALAXIES"**

**Course Title:** Stars and Galaxies  
**Course Number :** ASTR 1303  
**Class Number :** 80504  
**Semester :** SPRING 2012

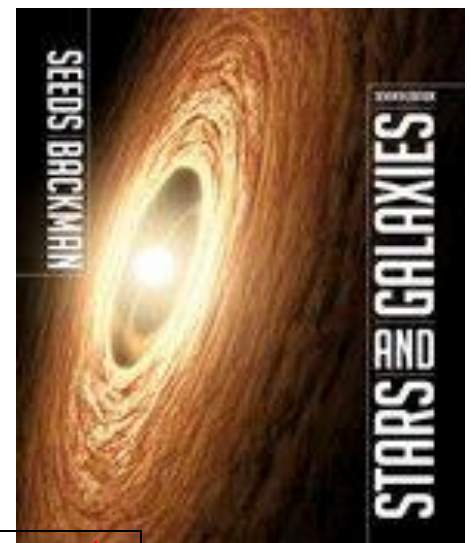
**Time and Location:** Tuesday/ Thursday 5:30 – 7:00 pm

**Room:** FM 208

**Instructor:** Roger Boston  
**Office Hours:** TBA **Phone:** 832 654 5627  
**E-mail:** [Roger.boston@hccs.edu](mailto:Roger.boston@hccs.edu)

**Required Text:**

Stars and Galaxies, 7<sup>th</sup> Edition  
Brooks/Cole (2011)  
eText  
ISBN-10 1-111-18023-7  
ISBN-13 978-1-111-18023-2  
Print  
ISBN-10 0-538-73317-9  
ISBN-13 978-0-538-73317-5



**i-POD available for Students' Use for this section and for the entire semester.**

All students will be issued an iPod fully loaded with the entire course materials. This will be yours to use in conjunction with this course for the entire semester. Stay tuned in class for more details.

**Course Description:**

Prerequisites: Must be placed into GUST 0341 (or higher) in reading and placed into Math 0312 (or take Math 0308 as a co-requisite).  
Credit: 3 (3 lecture)

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, super-clusters, their properties, structure and evolution.

- ♦ The instructor reserves the right to change/modify the syllabus, should there be any conflict with the schedule or policy of the college.

## Student and Course Learning Outcomes

<b>Student Learning Outcomes</b>	<p>Upon successful completion of this course the student should be able to:</p> <ol style="list-style-type: none"> <li>1. Develop an appreciation for the nature of science and the scientific method.</li> <li>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.</li> <li>3. Understand properties of stars, and galaxies.</li> <li>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</li> </ol>
<b>Course Learning Objectives</b>	<p>Upon completion of this course the student should be able to:</p> <ol style="list-style-type: none"> <li>1.1 Compare and contrast the size of the planet Earth to the size of the solar system and the Milky Way Galaxy.</li> <li>1.2 Distinguish among astronomical unit, light year and parsec.</li> <li>1.2 Name a few of the constellations, and relate brightness of stars to their size and distance.</li> <li>1.4 Describe the cycles of the moon and state the conditions for solar and lunar eclipses.</li> <li>2.1 Explain the difference between heliocentric and geocentric models of the universe.</li> <li>3.1 Demonstrate knowledge of the basic laws of physics that pertain to the study of stars and galaxies.</li> <li>3.2 Classify stars according to the luminosity temperature (Hertzsprung-Russell) diagram.</li> <li>3.3 Write a summary of the different stages in star development, including its birth, life, and death.</li> <li>3.4 Understand properties of galaxies and how these properties are determined.</li> <li>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.</li> </ol>

## Instructor guidelines and policies

**Attendance:** HCCS Attendance Policy is stated in the Student Handbook as follows:

You are expected to attend all lecture classes and labs regularly. You are also responsible for materials covered during your absences. Instructors may be willing to consult with you for make-up assignments, but it is your responsibility to contact the instructor. Class attendance is checked daily. Although it is your responsibility to drop a course for nonattendance, the instructor has the authority to drop you for excessive absences. You may be dropped from a course after accumulating absences in excess of 12.5 percent of the total hours of instruction (lecture and lab). For example:

For a three credit-hour lecture class meeting three hours per week (48 hours of instruction), you can be dropped after six hours of absence.

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**Course Material** - homework questions sets will be assigned after an 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.

**Support Course Material:** Course resources, lecture Notes (PPT) Chapter summary Exams Reviews; Assignments will be posted at [http://tc1.hccs.edu/hist/yr08/iphone\\_astronomy/default1.htm](http://tc1.hccs.edu/hist/yr08/iphone_astronomy/default1.htm)

**Make-up Exams:** *There are no make-up exams*, therefore, make every effort to take exams on their scheduled date. If an exam is missed, the best of the upcoming exams counts as two exams. Should you miss more than one exam, you will receive a 0 point grade for the second one.

**Grade Determination:** **Three regular exams** and a **compulsory comprehensive final** will be administered during the semester. Quizzes and/or home works will also be administered as scheduled.

**Note:**

**The final examination is comprehensive( it covers materials from all chapters covered) and compulsory (no student is exempted).**

The final grade is based on the score out of 100% that the student accumulated from the three exams, quizzes/home works and the final exam. Below is the weighting of the categories:

Exam I	20 %	<b><u>Grading Scale</u></b> A = 90-100 % B = 80-89 % C = 70- 79 % D = 60-69 % F = < 60 %
Exam II	20 %	
Exam III	20 %	
Final Exam	20 %	
Home works and Assignments Including iPOD Summary and media presentation	20 %	
<b>Total</b>	<b><u>100 %</u></b>	

**EARLY ALERT:**

HCC has instituted an Early Alert process by which your professor may “alert” you and the counselors that you might fail a class because of excessive absences and/or poor academic performance. A counselor will then reach out to you to discuss your progress and offer any relevant resources. This initiative is designed to provide students with support services and resources to assist them in successfully completing their course.

**HCC COURSE WITHDRAWAL POLICY:**

Beginning Fall 2007, the State of Texas imposes penalties on students who withdraw/drop courses excessively. Students are limited to no more than SIX total course withdrawals throughout their educational career at a Texas public college or university. Students are encouraged to review the

**HCC 6 Drop Policy:**

To help you avoid having to withdraw from any class, contact your professor regarding your academic performance. You may also want to contact your counselor to learn about helpful HCC resources (e.g. online tutoring, child care, financial aid, job placement, etc.).

**HOW TO DROP:**

If a student decides to withdraw from a class upon careful review of other options, the student can withdraw online prior to the deadline through their [HCC Student Center](#). •

HCC and/or professors may withdraw students for excessive absences without notification (see Class Attendance below).

Students should check HCC’s Academic Calendar by Term for withdrawal dates and deadlines. Classes of other duration (flex-entry, 8-weeks, etc.) may have different final withdrawal deadlines. Please contact the HCC Registrar’s Office at 713.718.8500 to determine mini-term class withdrawal deadlines.

<p><b>CLASS ATTENDANCE</b></p> <p>As stated in the HCC Catalog, all students are expected to attend classes regularly. 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 Blackboard class before the Official Day of Record will be automatically dropped for non-</p>	

## **DISABILITY SERVICES**

Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the Disability Support Services Office at the beginning of each semester. Professors are authorized to provide only the accommodations requested by the [Disability Support Services Office](#).

DSS office for assistance each semester:

District ADA Coordinator – Donna Price – 713.718.5165

Central ADA Counselors – Jaime Torres & Martha Scribner – 713.718.6164

Northeast ADA Counselor- Kim Ingram – 713.718.8420

Northwest ADA Counselor – Mahnaz Kolaini – 713.718.5422

Southeast ADA Counselor – Jette Lott - 713.718.7218

Southwest ADA Counselor – Dr. Becky Haur i– 713.718.7910

Coleman ADA Counselor – Dr. Raj Gupta – 713.718.7631

After student accommodation letters have been approved by the DSS office and submitted to DE Counseling for processing, students will receive an email confirmation informing them of the Instructional Support Specialist (ISS) assigned to their professor.

## **LIBRARY RESOURCES:**

Visit [Library Resources](#) specifically for Distance Education students. Library services are available throughout HCC. Through a daily library delivery service and a listing of all materials belonging to HCC libraries, books may be requested from and delivered to any campus library. HCC also has cooperative borrowing agreements with the University of Houston libraries and provides a copy of the Houston Public library catalog at each library. These arrangements provide students with access to over 4 million volumes.

Special services provided by the library system include photocopying facilities; specialized equipment for disabled students; group and personalized instruction in library use, including a self-instructional media program to orient students to the use of the HCCS libraries; a “term paper” workshop; and online bibliographic search services.

## **ONLINE TUTORING:**

HCC provides free online tutoring in writing, math, science, and other subjects. Look for Ask Online on your Blackboard log-in page. This directs students to the HCC [AskOnline](#) Tutoring site: <http://hccs.askonline.net/>. Use your student ID or HCC e-mail address to create an account. Instructions, including a 5-minute video, are provided to make you familiar with the capabilities of this service.

## **NETWORKING:**

Students are encouraged to become a fan of [DE on Facebook](#) and follow [DE on Twitter](#). These social networking sites can provide a sense of community for the online learner, as well as up-to-date information and announcements related to HCC.

Please also become familiar with:

[http://tc1.hccs.edu/hist/yr08/iphone\\_astronomy/default1.htm](http://tc1.hccs.edu/hist/yr08/iphone_astronomy/default1.htm) -- of critical value for use with iPods

<http://astronomy.hccs.edu> -- rich with astronomy resources

## **CLASSROOM CONDUCT**

All students in HCC courses are required to follow all [HCC Policies & Procedures](#), the [Student Code of Conduct](#), the [Student Handbook](#), and relevant sections of the Texas Education Code when

interacting and communicating in a virtual classroom with your professor and fellow students. Students who violate these policies and guidelines will be subject to disciplinary action that could include denial of access to course-related email, discussion groups, and chat rooms or even removal from the class.

**SEXUAL HARASSMENT:**

HCC shall provide an educational, employment, and business environment free of sexual harassment. Sexual harassment is a form of sex discrimination that is not tolerated by HCC.

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Any student who feels that he or she is the victim of sexual harassment has the right to seek redress of the grievance. HCC provides procedures for reviewing and resolving such complaints through its Grievance Policy. Substantiated accusations may result in disciplinary action against the offender, up to and including termination of the employee or suspension of the student. In addition, complainants who make accusations of sexual harassment in bad faith may be subject to equivalent disciplinary action.

**SCHOLASTIC DISHONESTY:**

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 un-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.

**VIOLATIONS:**

Possible punishments for academic dishonesty may include a grade of “0” or “F” on the particular assignment, failure in the course, and/or recommendation for probation or dismissal from the College System. A recommendation for suspension or expulsion will be referred to the College Dean of Student Development for disciplinary disposition.

**Important Dates:**

Classes begin/system	January 17
MLK holiday	January 16
President’s Day Holiday	Feb 20
Spring Break	March 12-18
<b>INSTRUCTION ENDS</b>	May 3
Final Exam	May 8



## Tentative outline for Stars and Galaxies-ASTR 1303 Spring, 2011

Chapter	Time table
<b>Part I Exploring The Sky</b>	
Chapter 1: The Scale of the Cosmos	Week 1
Chapter 2: The Sky	
Chapter 3: Cycles of The Moon	Week 2
Chapter 4: The Origin of Modern Astronomy	Week 3
Chapter 5: Newton, Einstein and Gravity	
Chapter 6: Light and Telescopes	Week 4
<b>Exam I Chapter 1-6</b>	
<b>Part II The Stars</b>	
Chapter 7: Atoms and Starlight	Week 6
Chapter 8: The Sun	
Chapter 9: The Family of Stars	Week 7
Chapter 10 : The Interstellar Medium	Week 8 Week 8
Chapter 11: The Formation of Stars	
Chapter 12: Stellar Evolution	Week 10
Chapter 13: The Death of Stars	
Chapter 14: Neutron Stars and Black holes	Week 11
<b>Exam II Chapters 7-14</b>	
<b>Part III The Universe</b>	
Chapter 15: The Milky way Galaxy	Week 12
Chapter 16: Galaxies	Week 13
Chapter 17: Galaxies with Active Nuclei	
Chapter 18: Cosmology in the 20 <sup>th</sup> Century	Week 14/15
<b>Part V Life and Review</b>	
Chapter 19: Life on Other Planets/ Review	
<b>Exam III Chapter 15-19</b>	
<b>Final Exam (Comprehensive)</b>	<b>May 8</b>