Stars and Galaxies – PHYS 1303.001 (Face-to-Face)

Course Syllabus: Spring 2020

"Northeast Texas Community College exists to provide personal, dynamic learning experiences empowering students to succeed."

Instructor: Mr. Mark Ellermann II
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Office Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Online
	9:00 – 9:30 4:30 – 6:00	4:30 – 6:00	9:00 – 9:30 4:30 – 6:00	1:30 – 6:00	By appointment	1:30 – 6:00 Mon – Thurs

This syllabus serves as the documentation for all course policies and requirements, assignments, and instructor/student responsibilities.

Information relative to the delivery of the content contained in this syllabus is subject to change. Should that happen, the student will be notified.

Course Description:
This course focuses on the history, development, and modern use of astronomy. It covers solar, galactic, and universal aspects of astronomy including stellar evolution, black holes, and current cosmological concepts.

3 credit hours
Lecture/Lab/Clinical: Three hours of lecture each week.

Prerequisite(s): None.

Student Learning Outcomes:
Upon successful completion of this course, students will be able to demonstrate understanding of qualitative concepts relating to the following learning outcomes:

1304.1) Recognize scientific and quantitative methods and the differences between these approaches and other methods of inquiry used in modern astrophysics.
1304.2) Communicate observations and interpretations clearly through written communication
1304.3) Use basic laws of astronomy to solve assigned tasks.
1304.4) The ability to translate, interpret, and extrapolate scientific theory governing the formation and evolution of galaxies and the universe.

College Student Learning Outcomes:

Critical Thinking Skills

CT.1 Students will demonstrate the ability to 1) analyze complex issues, 2) synthesize information, and 3) evaluate the logic, validity, and relevance of data.

Communication Skills

CS.1 Students will effectively develop, interpret and express ideas through written communication.

Empirical and Quantitative Skills

EQS.1 Students will manipulate numerical data or observable facts by organizing and converting relevant information into mathematical or empirical form

EQS.2 Students will analyze numerical data or observable facts by processing information with correct calculations, explicit notations, and appropriate technology.

EQS.3 Students will draw informed conclusions from numerical data or observable facts that are accurate, complete, and relevant to the investigation.

Teamwork

TW.2 Students will work with others to support and accomplish a shared goal.

Evaluation/Grading Policy:

Quizzes will represent 20% of your grade and class participation will count another 20%. There will be 4 tests and a Final Exam, as well as a group research paper (that will count as a test grade). The average of all tests will represent 60% of your grade. The letter grading system is:

A (90% - 100%)
B (80% - 89%)
C (70% - 79%)
D (60% - 69%)
F (< 60%)

Tests / Exams:

TEST 1: Introduction and Chapter 13
TEST 2: Chapters 14-15
TEST 3: Chapters 16-17
TEST 4: Chapters 18-19
FINAL EXAM: Chapters 13-21

Required Instructional Materials:

Kay, Palen, and Blumenthal. *21st Century Astronomy: The Solar System*, 6th Ed. W.W. Norton & Company, New York, 2019.

Publisher: W. W. Norton & Company
ISBN Number: 978-0-393-67552-8

Optional Instructional Materials: None

Minimum Technology Requirements: None

Required Computer Literacy Skills:
You will need to use a word processor to type the research assignment.

Course Structure and Overview:
A typical lecture will consist of a Powerpoint-based lecture with discussion on astronomy topics. Quizzes will be given on the last class day of the week.

Communications:
Email will be responded to within 24 hours IF SENT SUNDAY-THURSDAY. Due to the lack of internet availability at my home, I cannot guarantee responses over the weekend, though I will do my best. You can also call my office during office hours if you need to speak with me but can't make it to campus. However, I prefer face-to-face discussions, especially if you have a question about a homework problem. Any information that I send out will be done in class, via Blackboard, or via NTCC email. I will NOT email sensitive information to address that don't end with "@ntcc.edu"

Institutional/Course Policy:
Late work will not be accepted without prior approval by the instructor. Students and instructor are expected to treat each other with respect in and out of the classroom. Prompt attendance is expected for all class meetings. Missing lecture means missing discussion and important notes. During lecture, students are expected to be attentive to the topic discussed. Students found being consistently inattentive will be asked to leave.

NTCC Academic Honesty/Ethics Statement:
NTCC upholds the highest standards of academic integrity. The college expects all students to engage in their academic pursuits in an honest manner that is beyond reproach using their intellect and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. This course will follow the NTCC Academic Honesty and Academic Ethics policies stated in the Student Handbook. Refer to the student handbook for more information on these subjects.

ADA Statement:
It is the policy of NTCC to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to request accommodations. An appointment can be made with the Academic Advisor/Coordinator of Special Populations located in Student Services and can be reached at 903-434-8264. For more information and to obtain a copy of the Request for Accommodations, please refer to the special populations page on the NTCC website.

Family Educational Rights and Privacy Act (FERPA):
The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children's educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered "eligible students." In essence, a parent has no legal right to obtain information concerning the child's college records without the written consent of the student. In compliance with FERPA, information classified as "directory information" may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student's name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.

Tentative Course Timeline (*note* instructor reserves the right to make adjustments to this timeline at any point in the term):

Course Outline:

Week 1	Introduction Notes: Introduction to Astronomy
Week 2	Chapter 13: Taking Measure of the Stars
Week 3	**Exam 1: Review Day and Test Day**
Week 4	Chapter 14: Our Star – The Sun
Week 5	Chapter 15: The Interstellar Medium and Star Formation
Week 6	**Exam 2: Review Day and Test Day**
Week 7	Chapter 16: Evolution of Low-Mass Stars
Week 8	Chapter 17: Evolution of High-Mass Stars
Spring Break	
Week 9	**Exam 3: Review Day and Test Day**
Week 10	Chapter 18: Relativity and Black Holes
Week 11	Chapter 19: Galaxies
Week 12	**Exam 4: Review Day and Test Day**
Week 13	Chapter 20: The Milky Way
Week 14	Chapter 21: The Expanding Universe
Week 15	Chapter 22: Cosmology
Week 16	**Final Exam (May 13 @ 9:30 am)**