



Stars and Galaxies – PHYS 1303.088 (Online)

Course Syllabus: Spring 2020

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

Instructor: Dale Loughmiller, Adjunct Professor of Physics

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| Office Hours | Monday | Tuesday | Wednesday | Thursday | Friday | Online |
|--------------|--------|---------|-----------|----------|--------|-----------|
| | Online | Online | Online | Online | Online | Every Day |

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. Three credit hours.

Prerequisite(s): TSI complete status

Student Learning Outcomes:

Upon successful completion of this course, students will

- 1303.1** Recognize scientific and quantitative methods and the differences between these approaches and other methods of inquiry used in modern astrophysics.
- 1303.2** Communicate observations and interpretations clearly through written communication.
- 1303.3** Use basic laws of astronomy to solve assigned tasks.
- 1303.4** The ability to translate, interpret, and extrapolate scientific theory governing the formation and evolution of stars.
- 1303.5** The ability to translate, interpret, and extrapolate scientific theory governing the formation and evolution of galaxies and the universe.

Core Curriculum Purpose and Objectives:

Through the core curriculum, students will gain a foundation of knowledge of human cultures and the physical and natural world; develop principles of personal and social responsibility for living in a diverse world; and advance intellectual and practical skills that are essential for all learning.

Courses in the foundation area of mathematics focus on quantitative literacy in logic, patterns, and relationships. In addition, these courses involve the understanding of key mathematical concepts and the application of appropriate quantitative tools to everyday experience.

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%)

Test/Exams

Test 1: Chapters 1 & 13
Test 2: Chapters 14-15

Test 3: Chapters 16-18
Test 4: Chapters 19-20
Final Exam: 1, 13-22

Required Instructional Materials: Kay, Palen, and Blumenthal. *21st Century Astronomy: Stars and Galaxies*, 6th edition.

Publisher: W. W. Norton & Company

ISBN Number-978-0-393-67554-2 (Inclusive Access for digital copy of textbook)

Optional Instructional Materials:

Printed textbook with paperback binding

ISBN Number-978-0-393-67560-3

Note: The NTCC Bookstore link is at www.ntcc.edu

Minimum Technology Requirements:

Access to a working Windows based computer with stable internet access.

Required Computer Literacy Skills:

- 1) Communicate via email;
- 2) Saving and reloading saved files;
- 3) Navigate Blackboard to access posted materials and assignments.

Course Structure and Overview:

This is a 16-week online course where students are required to complete online activities provided via the Blackboard and the required textbook. A typical week involves completing several chapter activities, a quiz, and perhaps a chapter quiz. Chapter assignments will be released on a weekly basis on Monday and due the following Sunday evening.

Communications:

Emails will be responded to within 24 hours. Posts in the Discussion Forum, “Virtual Office” will be monitored by the instructor. Responses by the instructor will be within 72 hours following the post. Students are expected to abide by Netiquette rules when communicating online. See this link for details: [www. https://coursedesign.colostate.edu/obj/corerulesnet.html](http://www.https://coursedesign.colostate.edu/obj/corerulesnet.html).

The college’s official means of communication is via your campus email address. Your instructors will use your campus email and Blackboard to communicate with you outside of class. Make sure you keep your campus email cleaned out and below the limit so you can receive important messages.

Institutional/Course Policy:

No late work will be accepted without prior approval by the instructor. It is the student’s responsibility to check Blackboard for important information/announcements regarding the course. Students should be working on course material via Blackboard every week. Do not wait until the last minute to complete and

submit assignments in case of technology issues.

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.

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 special population 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 Schedule: (Subject to Change)

| <u>Weeks</u> | <u>Topics</u> | <u>Assignments</u> | <u>Due Dates</u> (Due by 11:59pm CST) |
|---------------------------|---------------------------------|---------------------------|---|
| Week 1: 1/21/20 – 1/26/20 | Start Here Folder Chapter 13 | Chapter 13 Assignments | 1/26/2020 |
| Week 2: 1/27/20 – 2/2/20 | Chapter 14 | Chapter 14 Assignments | 1/30/2020 |
| Week 3: 2/3/20 – 2/9/20 | Chapter 15 | Chapter 15 Assignments | 2/6/2020 |

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|---------------------------|---------------|-------------------------|-----------|
| Week 4: 2/10/20 – 2/16/20 | Chapter 16 | Chapter 16 Asssignments | 2/13/2020 |
| Week 5: 2/17/20 – 2/23/23 | Chapter 17 | Chapter 17 Asssignments | 2/20/2020 |
| Week 6: 2/24/20 – 3/1/20 | Chapter 18 | Chapter 18 Asssignments | 2/27/2020 |
| Week 7: 3/2/20 – 3/8/20 | Chapter 19 | Chapter 19 Asssignments | 3/5/2020 |
| Week 8: 3/9/20 – 3/15/20 | Mid-Term Exam | Mid-Term Exam | 3/12/2020 |

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|----------------------------|----------------------------|-------------------------|-----------|
| 3/16/20 – 3/22/20 | Happy Spring Break! | | |
| Week 9: 3/23/20 – 3/29/20 | Chapter 20 | Chapter 20 Asssignments | 3/26/2020 |
| Week 10: 3/30/20 – 4/5/20 | Chapter 21 | Chapter 21 Asssignments | 4/2/2020 |
| Week 11: 4/6/20 – 4/12/20 | Chapter 22 | Chapter 22 Asssignments | 4/9/2020 |
| Week 12: 4/13/20 – 4/19/20 | Chapter 23 | Chapter 23 Asssignments | 4/16/2020 |
| Week 13: 4/20/20 – 4/26/20 | Chapter 24 | Chapter 24 Asssignments | 4/23/2020 |
| Week 14: 4/27/20 – 5/3/20 | Class Review | Review Documents | 4/30/2020 |
| Week 15: 5/4/20 – 5/10/20 | Class Project | Submit Project | 5/7/2020 |
| Week 16: 5/11/20 – 5/21/20 | SLO/Final Exam | SLO/Final Exam | 5/12/2020 |