SYLLABUS

CODE: PHYS-106  TITLE: Astronomy

DIVISION: Science/Health Sciences  DEPARTMENT: Physics

COURSE DESCRIPTION: This introductory astronomy course is for college students who are curious about the universe. Topics covered include the historical foundations of astronomy, the tools and techniques used by modern astronomers, the sun, planets, moons, and minor bodies of our solar system, and the processes by which it formed.

PREREQUISITES: MATH-015 and READ-095 or passing scores in computation and reading on Basic Skills Test.

COREQUISITES:

CREDITS: 3  LECTURE HOURS: 3  LAB HOURS: 0

REQUIRED MATERIALS:
TEXT: See WWW.BROOKDALECC.BKSTR.COM.

ADDITIONAL TIME REQUIREMENTS:
(Identify open lab or other lab requirements)

COURSE LEARNING OUTCOMES:
Upon successful completion of this introductory astronomy course, students will be able to:
- Communicate information and ideas about the basic concepts of experimental and theoretical astronomy clearly and effectively in the written and spoken form (COMMUNICATION & INFORMATION LITERACY).
- Apply the scientific method, fundamental principles of astronomy, physics and mathematical techniques to solve problems (MATHEMATICAL/SCIENTIFIC REASONING & CRITICAL THINKING).
- Use instruments and computers to analyze data (TECHNOLOGICAL LITERACY).

GRADING STANDARD:

GENERAL METHOD OF EVALUATION
The assigned homework should be done each week. Every homework should be handed in with each question answered IN HANDWRITTEN FORM. Answers directly or indirectly copied from the student manual are not accepted. Each of the 13 homework assignments will count three points for a total of 39 points. Out of these, 34 points will count for one third of the grade.

Two tests will be administered; each one will count for 33% of the grade. A midterm will be administered in class during our eighth meeting week and will cover Parts I through III. The final will be administered during the last day of class (the 15th week) and will cover parts IV through VI. If you miss the midterm, you may take it the following week with the understanding that the highest mark you will receive is the numeric equivalent of a “C”. If the test is not made-up within one week following the original test date, there will be no other chance to take it and a failure will be assigned for the midterm. There is no makeup for the final. If there are special circumstances such that I know at least two weeks in advance that you will not be able to take the scheduled tests on the assigned dates, I will work out other arrangements as long as the absence is justifiable. Test grades will be curved based on overall class performance. No greater than three absences are allowed.
**SYLLABUS**

**COURSE GRADE**

The final grade assigned will be:

- 92 - 100      A
- 89 - 91       A-
- 86 - 88       B+
- 82 - 85       B
- 79 - 81       B-
- 76 - 78       C+
- 70 - 75       C
- 65 - 69       D
- 0 - 64        F

**COURSE CONTENT:**

Unit 1: **Developing Perspective**
  - a. Our Place in the Universe
  - b. Discovering the Universe for Yourself
  - c. Timekeeping and Navigation

Unit 2: **Key Concepts For Astronomy**
  - a. The Science of Astronomy
  - b. Matter and Energy
  - c. Universal Motion
  - d. Light

Unit 3: **The Solar System**
  - a. Formation of the Solar System
  - b. Planetary Geology: Earth and Other Terrestrial Worlds
  - c. Planetary Atmospheres
  - d. Jovian Planetary Systems
  - e. Asteroids, Comets and Pluto
  - f. Lessons from Earth

Unit 4: **Space, Time, and Gravity**
  - a. Space and Time
  - b. Gravity and Time Distortion
  - c. Quantum Physics

Unit 5: **Stellar Alchemy**
  - a. Our Star
  - b. Stars
  - c. Stellar Properties
  - d. Birth and Death of Stars

Unit 6: **Galaxies and Beyond**
  - a. Our Galaxy
  - b. Galaxies
  - c. Galaxy Evolution
  - d. Dark Matter
  - e. Beginning of Time
  - f. Interstellar Travel
DEPARTMENT POLICIES

COLLEGE POLICIES:
For information regarding:
♦ Brookdale’s Academic Integrity Code
♦ Student Conduct Code
♦ Student Grade Appeal Process

Please refer to the STUDENT HANDBOOK AND BCC CATALOG.

NOTIFICATION FOR STUDENTS WITH DISABILITIES:
Brookdale Community College offers reasonable accommodations and/or services to persons with disabilities. Students with disabilities who wish to self-identify, must contact the Disabilities Services Office at 732-224-2730 or 732-842-4211 (TTY), provide appropriate documentation of the disability, and request specific accommodations or services. If a student qualifies, reasonable accommodations and/or services, which are appropriate for the college level and are recommended in the documentation, can be approved.

ADDITIONAL SUPPORT/LABS:

1. A Learning Assistant is available to assist you in room MAS-117. The schedule of the Learning Assistant is posted on the door of MAS-117.
2. The instructor’s solution manual for homework is available in the lab room (MAS-117).
3. The video tapes “Understanding the Universe: An Introduction to Astronomy” are available in the lab room (MAS-117).
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