# 7/23/2020

# brcc keystone logo

Baton Rouge Community College

*Academic Affairs Master Syllabus*

Date Approved: 11 September 2020

Term and Year of Implementation: Fall 2020

**Course Title:** Introduction to Astronomy

**BRCC Course Rubric:** ASTR 1103

**Previous Course Rubric**: ASTR 101

**Lecture Hours per week-Lab Hours per week-Credit Hours**: 3-0-3

**Per semester: Lecture Hours-Lab Hours-Instructional Contact Hours**: 45-0-45

**Louisiana Common Course Number:** CAST 1103

**CIP Code:** 40.0201

**Course Description:** Surveys astronomy at the introductory level with emphasis on the concepts and processes which have led to the current understanding of the universe and our solar system.

**Prerequisites:**  College math with grade “C” or better

**Co-requisites:** None

**Suggested Enrollment Cap:** 30

**Learning Outcomes.** *Upon successful completion of this course, the students will be able to:*

1. Describe the life cycle and formation of stars, planets, and galaxies.

2. Explain the processes that power the Sun and other stars.

3. Explain how astronomers use angles to measure the size and position of objects in the sky.

4. Apply scientific notation to astronomic concepts.

5. Discuss how the study of astronomy has led to practical applications here on Earth as well as expanding our knowledge of the universe and its origins.

**General Education Learning Outcome(s):** This course supports the development of competency in the following area(s). Students will:

Apply scientific concepts to explain the natural world. (General Education Competency in Scientific Reasoning)

**Assessment Measures.** Assessment of all learning outcomes will be measured using the following methods:

1.  Administration of unit exms during the semester and a comprehensive final exam at the end of the semester.

2. Instructor-designed assignments, including, but not limited to, laboratory reports, projects, homework and/or quizzes. All will be graded using an instructor-designed rubric.

**Information to be included on the Instructor’s Course Syllabi:**

* ***Disability Statement*:** Baton Rouge Community College seeks to meet the needs of its students in many ways. See the Office of Disability Services to receive suggestions for disability statements that should be included in each syllabus.
* ***Grading:*** The College grading policy should be included in the course syllabus. Any special practices should also go here. This should include the instructor’s and/or the department’s policy for make-up work. For example in a speech course, “Speeches not given on due date will receive no grade higher than a sixty” or “Make-up work will not be accepted after the last day of class”.
* ***Attendance Policy*:** Include the overall attendance policy of the college. Instructors may want to add additional information in individual syllabi to meet the needs of their courses.
* ***General Policies*:** Instructors’ policy on the use of things such as beepers and cell phones and/or hand held programmable calculators should be covered in this section.
* ***Cheating and Plagiarism*:** This must be included in all syllabi and should include the penalties for incidents in a given class. Students should have a clear idea of what constitutes cheating in a given course.
* ***Safety Concerns:*** In some courses, this may be a major issue. For example, “No student will be allowed in the lab without safety glasses”. General statements such as, “Items that may be harmful to one’s self or others should not be brought to class”.
* ***Library/ Learning Resources:*** Since the development of the total person is part of our mission, assignments in the library and/or the Learning Resources Center should be included to assist students in enhancing skills and in using resources. Students should be encouraged to use the library for reading enjoyment as part of lifelong learning.

**Expanded Course Outline:**

I. Scientific Method and Measurement in Astronomy

A. Ancient Fascination towards the Sky (Myth, Legends, Ceremonies, etc.)

B. Versus Scientific Curiosity and Discovery

II. The Sky

A. Constellations: Big and Little Dipper, Orion, Andromeda

B. The Appearance of the Sky: Colors and Motion

C. Size and Shape of Earth

D. Seasons

III. The Moon

A. Lunar Phases

B. Eclipses

C. Tides

IV. The Solar System

A. Copernicus versus Tolomeus

B. Kepler’s Laws and Newton’s Law of Motion

C. Universal Law of Gravitation

D. Light (How we know the Universe)

E. Telescopes

F. Comparative Planetology

V. Rocky Planets

A. Earth as a Planet

B. The Moon’s Composition (it is not made of cheese…)

C. Mercury and Venus

D. Mars Now and in the Past (microlife on Mars?)

VI. Outer Bodies

A. Gas Giant Planets

B. Rings around Planets

C. Moons around Planets

D. Pluto: Planet or Large Kuiper Belt Object?

E. Comets

VII. Extraterrestrial Life

A. Formation of the Solar System

B. Recent Discoveries about Extra Solar Planets

C. Exobiology

D. Alien Life

VIII. The rest of the Universe

A. Our Sun

B. Stars

C. Galaxies

D. Hubble Law

E. Age and Fate of the Universe

F. Great new Cosmology Discoveries