Course Prefix and Number: SCI 101
Course Title: Foundations in Science
Course Prerequisites: None
Course Description: A survey course in physics and the physical sciences for non-science majors

Learning Outcomes:

At the end of this course, the student will

A. relate fundamental principles of physics and astronomy to understand the natural world; and
B. apply critical thinking, observation, and analysis skills to the development of scientific thinking.

To achieve the learning outcomes, the student will

1. list examples that show science is a way of asking and answering questions about the physical universe. (B)
2. explain each step in the scientific method. (B)
3. determine direct, inverse, linear, and nonlinear relationships between variables. (A,B)
4. explain motion and the forces that cause motion. (A,B)
5. briefly explain and apply the universal laws of motion. (A)
6. describe the first law of thermodynamics. (A)
7. compare and contrast the forms of energy. (A)
8. explain the interchangeability of energy. (A)
9. distinguish the difference between work and power. (A)
10. distinguish the difference between temperature and heat. (A,B)
11. recognize the terms related to wave interaction. (A)
12. relate music to sound waves. (A,B)
13. recognize the terms related to electricity. (A)
14. describe how electrical work is done via the electric field. (A,B)
15. discuss light (radiant energy) as a field effect that can traverse a vacuum. (A,B)
16. describe ways information about the outer solar system may be gathered. (A)
17. discuss the makeup of our solar system. (A)
18. use the nebular hypothesis to explain the formation of the solar system. (A)
19. describe characteristics of the earth, moon, and planets.
20. define asteroids, comets and meteors. (A)
21. orally present a scientific topic discussed in this course. (A,B)

**Course Requirements:** To earn a grade of “C” or higher the student must earn 70% of the total points for the course and meet all of the following course requirements.

- minimum average of 60% on tests
- minimum average of 60% on the oral presentation and research article summaries

**Course Grading Scale:**

**A-** 90% or more of the total points possible for the semester; and meet all minimum course requirements

**B-** 80% or more of the total points possible for the semester; and meet all minimum course requirements

**C-** 70% or more of the total points possible for the semester; and meet all minimum course requirements

**D-** 60% or more of the total points possible for the semester; and meet all minimum course requirements.

**F-** less than 60% of the total points possible for the semester; and/or failure to meet one or more of the minimum course requirements

**Attendance Policy:** The college attendance policy is available at http://www.bpcc.edu/catalog/current/academicpolicies.html

**Nondiscrimination Statement**

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Equity/Compliance Coordinator