

**J. Sargeant Reynolds Community College
Course Content Summary**

Course Prefix and Number: RTH 102

Credits: 3

Course Title: Integrated Sciences for Respiratory Care

Course Description: Integrates the concepts of mathematics, chemistry, physics, microbiology, and computer technology as these sciences apply to the practices of respiratory care. Prerequisite: Completion of the Health Science Career Studies Certificate Respiratory Therapy pathway and acceptance into pre-clinical courses. Lecture 3 hours per week.

General Course Purpose: This course teaches students how basic principles of math and science can be used to identify and modify treatment options and care for patients with respiratory diseases and disorders.

Course Prerequisites and Co-requisites:

Prerequisite: Completion of the Health Science Career Studies Certificate Respiratory Therapy pathway and acceptance into pre-clinical courses.

Student Learning Outcomes:

Upon completing the course, the student will be able to:

- a. Review the basic scientific principles, definitions, and concepts applicable to respiratory care;
- b. Apply the basic concepts of chemistry to the practice of respiratory care;
- c. Apply the basic mathematical concepts used in the practice of respiratory care;
- d. Apply the basic concepts of fluid physics to the practice of respiratory care;
- e. Relate the basic concepts of microbiology to the practice of respiratory care; and
- f. Introduce the concepts and skills associated with computer technology in respiratory care.

Major Topics to Be Included:

- a. Metric system
- b. Chemistry
- c. General principles of gas physics
- d. Fluid/electrolytes
- e. Microbiology

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