SCIENCE: Biology CR

COURSE DESCRIPTION: This course is an introduction to general biology and to the processes of scientific inquiry and thinking. It will include the fundamental principles of living organisms including physical and chemical properties of life, cellular organization and function, the transfer of energy through metabolic systems, cellular reproduction, the classification of living things, the six kingdoms of life will be examined. The main focus is to present biological information in an understandable and straight forward way that will capture the students' interest dealing with up to date principles and concepts.

This course has been specifically built with the credit recovery student in mind. The course content has been appropriately chunked into smaller topics to increase retention and expand opportunities for assessment. With each topic, diagnostic quizzes are presented to the student, allowing students to pass through areas of content that they have previously studied successfully. Post-topic quizzes are presented with each topic of content. Audio readings are included with every portion of content, allowing auditory learners the opportunity to engage with the course. Test pools and randomized test questions are utilized in pre- and post-topic quizzes as well as unit exams, ensuring that students taking the course will not be presented with the same exams.

The ELL version of the course includes additional practice activities (such as cloze activities), as well as pre-topic vocabulary lists, that introduce key vocabulary in English and in Spanish.

PREREQUISITES: None
COURSE LENGTH: Two Semesters or Block
REQUIRED TEXT: None
COURSE OUTLINE:

BIOLOGICAL PRINCIPLES
- Section 1 – INTRODUCTION TO BIOLOGY
- Section 2 – CHARACTERISTICS AND ORGANIZATION OF LIFE
- Section 3 – TOOLS OF BIOLOGY

CHEMICAL AND MOLECULAR BASIS OF LIFE
- Section 1 – THE CHEMICAL CONTEXT OF LIFE
- Section 2 – PROPERTIES OF WATER
- Section 3 – BASIC ATOMIC STRUCTURE
- Section 4 – METABOLISM AND ENERGY

CELLS
- Section 1 – THE STRUCTURE AND FUNCTION OF CELLS
- Section 2 – HOMEOSTASIS AND TRANSPORT
- Section 3 – PHOTOSYNTHESIS
- Section 4 – CELLULAR RESPIRATION
- Section 5 – CELL REPRODUCTION

GENETICS
- Section 1 – FUNDAMENTALS OF GENETICS
- Section 2 – MENDELIAN GENETICS
- Section 3 – GENES AND CHROMOSOMES
- Section 4 – HUMAN HEREDITY
- Section 5 – BIOTECHNOLOGY

EVOLUTION
- Section 1 – ORIGIN OF LIFE
- Section 2 – DARWINISM
- Section 3 – CLASSIFICATION OF LIVING THINGS
- Section 4 – EVOLUTION IN PROCESS
- Section 5 – HUMAN EVOLUTION

ECOLOGY AND ECOSYSTEMS
- Section 1 – OVERVIEW OF ECOLOGY AND

ECOSYSTEMS
- Section 2 – FACTORS AFFECTING ORGANISMS
- Section 3 – AQUATIC AND TERRESTRIAL BIOMES
- Section 4 – POPULATIONS AND COMMUNITES

MICROORGANISMS
- Section 1 – BACTERIA
- Section 2 – VIRUSES
- Section 3 – PROTISTS
- Section 4 – FUNGI

PLANTS
- Section 1 – OVERVIEW OF PLANT KINGDOM
- Section 2 – PLANT STRUCTURE AND FUNCTION
- Section 3 – PLANT REPRODUCTION

ANIMALS
- Section 1 – MAJOR GROUPS OF INVERTEBRATES
- Section 2 – MAJOR GROUPS VERTEBRATES

HUMAN BIOLOGY AND POPULATIONS

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