

**Core Curriculum
Course Proposal Cover Sheet**

Department: Biological Sciences
College: Science and Technology
Department Head: John Calahan

Course Prefix & Number: Biol 120

Course Title: General Biology I

Course Description: Detailed study of a typical cell, cell phenomena, mitosis, meiosis, nucleic acid, protein synthesis, basic principles of genetics, photosynthesis, cellular respiration, and evolutionary theory. A survey of the Plant Kingdom is covered. Much of the laboratory is devoted to a detailed study of the anatomy and physiology of prokaryotes, fungi, and plants, enzyme and hypothesis testing, cell reproduction, and the inheritance of genes.

LIFE AND PHYSICAL SCIENCES

FOUNDATIONAL COMPONENT AREA JUSTIFICATION FORM

Rationale: Please provide a rationale for the course which explains how the course being proposed fits into this component based on the component's description. For your convenience, the overall description and rationale for this component are included below.

Life and Physical Sciences (from THECB Chapter 4: 4.28)

- Courses in this category focus on describing, explaining, and predicting natural phenomena using the scientific method.
- Courses involve the understanding of interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences.
- The following four Core Objectives must be addressed in each course approved to fulfill this category requirement: Critical Thinking Skills, Communication Skills, Empirical and Quantitative Skills, and Teamwork.
 - Critical Thinking Skills: to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information;
 - Communication Skills: to include effective development, interpretation and expression of ideas through written, oral and visual communication;
 - Empirical and Quantitative Skills: to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions;
 - Teamwork: to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.

Rationale for Inclusion in this Category:

Biology 120 (General Biology I) is a basic science that focuses on the biochemical and cellular bases of life, molecular biology, genetics, reproductive biology, developmental biology, cellular respiration, photosynthesis, fungi and plant anatomy and reproduction, classification and taxonomy, and evolutionary theory. The course also teaches students the various methods scientists use to answer questions and solve problems leading to the discovery of and development of new knowledge.

STUDENT LEARNING OUTCOME ALIGNMENT FORM
Life and Physical Sciences

Course Prefix/Number: Biol 120

Course Title: General Biology I

Core Objective: Critical Thinking CT1: Students will evaluate evidence in analysis, interpretation or arguments

Course SLO(s): CT1: Students will evaluate evidence in analysis, and interpretation.

Learning Activities: Students will use a variety of observations to correctly identify types of cells, diverse fungi and plant types, and various anatomical structures of cells, fungi, and plants.

Means of Assessment: Exam questions related to identification and analysis.

Core Objective: Critical Thinking CT2: Students will synthesize varied components of information to form a rational conclusion.

Course SLO(s): Students will synthesize varied components of information to form a rational conclusion.

Learning Activities: Students will be taught how to read genetic karyotypes and to recognize various forms of allelic interaction. Using this information the students will be able to make predictions of possible genotypes and phenotypic expressions in offspring.

Means of Assessment: Exam questions related to analysis of information on karyotypes.

Core Objective: Communication C1: Students will express ideas in written, visual or oral forms to a range of diverse audiences in multiple settings.

Course SLO(s): Students will express ideas in written, visual or oral forms to a range of diverse audiences in multiple settings.

Learning Activities: Students will observe lab specimens, structures, procedures, and activities and express their observations and results both orally in their group discussions and in written form on lab worksheets and exams.

Means of Assessment: Targeted exam questions will be used to compare individuals with the group observations and results.

Core Objective: Empirical and Quantitative EQS1: Students will gather, interpret or use numerical data/observable facts to arrive at an informed conclusion.

Course SLO(s): Students will gather, interpret or use numerical data/observable facts to arrive at an informed conclusion.

Learning Activities: Students will gather and interpret numerical data in various lab procedures and observations, including determination of phenotypic and genotypic ratios and genetic probabilities, and the measuring and interpretation of DNA fragment migration in gel electrophoresis.

Means of Assessment: Scores on lab worksheets, and embedded exam questions.

Core Objective: Teamwork TW1: Students will work in coordination to complete specific tasks.

Course SLO(s): Students will work in coordination to complete specific tasks.

Learning Activities: Coordination within lab groups, which will be assigned for the gel electrophoresis lab.

Means of Assessment: Students will individually take a lab quiz covering the gel electrophoresis activity, followed by a quiz taken as a coordinated group effort in which all group members must provide input to answer questions regarding the procedures required to complete the task. Assessment will include comparing individual with group results.

As department head, I will ensure that all faculties that teach this course are aware of the requirements that these core objectives and learning strategies be incorporated into the above referenced course. This action is taken so that Tarleton State University will be in compliance with Texas Higher Education Coordinating Board foundational component area and core objective requirements for the General Education Core Curriculum.

Signature_____

We, the undersigned faculty, support the proposed changes to this course and agree to incorporate them into our section of the above referenced course. This action is taken so that Tarleton State University will be in compliance with Texas Higher Education Coordinating Board foundational component area and core objective requirements for the General Education Core Curriculum.

(Signed document should be kept in department office, listing names below on the electronic document implies acceptance)

Terry Johnson