

RSU 24 Course Development/Change Request

This form and process is used for adding courses. Please submit to the Curriculum Director. The request will be reviewed by the Educational Programming Committee in a 2-step process. An example is available.

Person/Team Making Request: Julie Burr, Alisa Long, Morgan Forni

Content Area: Science

Course Title: Principles of Biology

Purpose of the Course: Principles of Biology would be a year long course generally taken junior year. It has become increasingly necessary to provide a biology course that works at a pace more appropriate for some of our learners. This course will provide students with selected life science performance indicators that can be covered with more practice before, and more spacing between, summative assessments. This course would be a natural progression to follow Principles of Chemistry taken by sophomores.

Course Objectives: Please be specific in how these objectives relate to RSU 24's Essential Skills and Power Standards as well as how they will be assessed.

Science and Technology Standards

Content Standards:

Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells (LS1-1)

Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms (LS1-4)

Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions (LS2-3)

Evaluate the evidence for the role of group behavior on individual and species' chances to survive and reproduce. (LS2-8)

Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population (LS3-3)

Construct an explanation based on evidence that the process of evolution primarily results from four factors; 1) the potential for a species to increase in number, 2) the heritable genetic variation, of individuals is a species due to mutation and sexual reproduction, 3) competition for limited resources, 4) the proliferation of those organisms that are better able to survive and reproduce in the environment. (LS4-2)

Science and Engineering Practices:

Ask and/or evaluate questions that challenge the premise(s) of an argument, the interpretation of a data set, or the suitability of a design (NGSS.SEP.1.1)

Develop, revise, and/or use a model based on evidence to illustrate and/or predict the relationships between systems or between components of a system. (NGSS.SEP.M.1)

Develop a complex model that allows for manipulation and testing of a proposed process or system. (NGSS.SEP.M.2)

Other Additional Information:

While this course will be open to all students, the Special Education Department is in full support of this proposal as it fulfills a learning need for many of this student population. Biology courses currently covers nine content performance indicators over the course of the year. The selection for this course is six of the performance indicators that the Science Team feels every student regardless of path after high school should be exposed to. This includes topics such as evolution, inheritance, cancer, and ecosystems.

Signatures: Teacher(s): Julie J. Bunn Date: 11/25/18
Alisa M. Zong Date: 11/29/18
[Signature] Date: 11/29/18
Building Principal: [Signature] Date: 11/30/18
Curriculum Director: [Signature] Date: 12/3/2018

First Review by the Educational Programming Committee on December 11, 2018

Recommendation to RSU 24 Board of Directors:

RSU 24 Board of Directors' Decision:

Date: