Life, Death and Disease Syllabus

This class includes the study of the basic building blocks of life, the scientific and social ideas about life through time, as well as diseases and their impact. We will begin with an examination of what it means to be alive and how life works at a cellular level. From here we will examine natural selection and diseases. We will end with a simulation where we try to stop the spread of a disease. Our essential questions for the trimester include: What does it mean to be alive? How has life changed over time? What can we predict about the future?

NEXT GENERATION SCIENCE STANDARDS

LS1.A: Structure and Function

In multicellular organisms, the body is a system of multiple interacting subsystems. These subsystems are groups of cells that work together to form tissues and organs that are specialized for particular body functions. (MS-LS1-3) Priority Standard

Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms. (MS-LS1-5) Priority Standard

LS4.B: Natural Selection

Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time. (MS.LS4-6) Priority Standard

Supporting standards

All living things are made up of cells, which is the smallest unit that can be said to be alive. An organism may consist of one single cell (unicellular) or many different numbers and types of cells (multicellular). (MS-LS1-1)

Within cells, special structures are responsible for particular functions, and the cell membrane forms the boundary that controls what enters and leaves the cell. (MS-LS1-2)

Natural selection leads to the predominance of certain traits in a population, and the suppression of others. (MS-LS4-4)

COMMON CORE ELA

CCSS.ELA-LITERACY.SL.8.4

Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.

CCSS.ELA-LITERACY.SL.8.5

Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.

CCSS.ELA-LITERACY.SL.8.6

Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.

CCSS.ELA-LITERACY.RI.8.8

Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced.

Class Structure and Grading:

Class activities 45%

Much of the work for this course will be done in class in the form of activities, explorations and a simulation. Students will be given or create handouts and rubrics for activities. It is important that students keep all of the handouts in a space in their notebook and bring them along with a pen and pencil to class everyday. Participating during in class activities and simulations is essential to success.

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Projects, presentations and tests 45%
Some of the work for this course will require group and individual research. This research will culminate in projects and presentations. In the case of group work, students receive both a group and individual grade. Tests may be given from time to time with adequate opportunity for student preparation and study.
Homework 10%
Most homework will consist of follow-up from in class work or work required to meet due dates for portions of a project or activity.
Work expectations