

Course Name: Honors Biology

Duration: 1 Semester Full Year

Grade Level: 9th 10th 11th 12th (check all that apply)

Are there any prerequisites for the course?

Honors Chemistry or Honors Physics is strongly encouraged

WHAT this course is about:

Biology is the study of life. Honors Biology is taught primarily from a molecular perspective although all levels of the biological hierarchy are studied.

WHY take this course:

After completion of Honors Chemistry and Honors Biology, students are prepared to take any and all of our AP science courses (AP Physics C math dependent). This is a rigorous course designed for students that have a strong curiosity about the natural world and who want to push themselves as learners.

WHAT you'll learn:

- Fundamental characteristics of life
- Biomolecule structure and function
- Cellular energy absorption and transformation
- Life and cellular cycles
- Genetics
- Evolution: Natural selection and speciation

WHAT you'll do:

- Biochemistry labs
- Microscope investigations
- Modeling of complex biological systems
- Data collection and analysis
- Interact with challenging content on a daily basis
- Apply concepts across scientific disciplines

WHERE this could take you:

Students will be prepared for the rigor of AP level Biology, Chemistry, Physics, and Environmental Science. Lewis and Clark Honors Science alums have had an extraordinary degree of success in STEM education at university and in post college STEM fields.

OPTIONAL Course Outline (“scope and sequence”, sequence chart, etc.)

- Unit 1: Taxonomy, Characteristics of Life, Biomolecules
- Unit 2: Bioreaction Energy (ATP, Enzymes), Cell structure
- Unit 3: Cellular Energy (Photosynthesis, Cell Respiration), Trophic Levels
- Unit 4: Cell Cycle, Life Cycles, Mitosis, DNA Synthesis, Protein Synthesis
- Unit 5: Meiosis, Genetics
- Unit 6 Evolution (Natural Selection, Speciation)

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