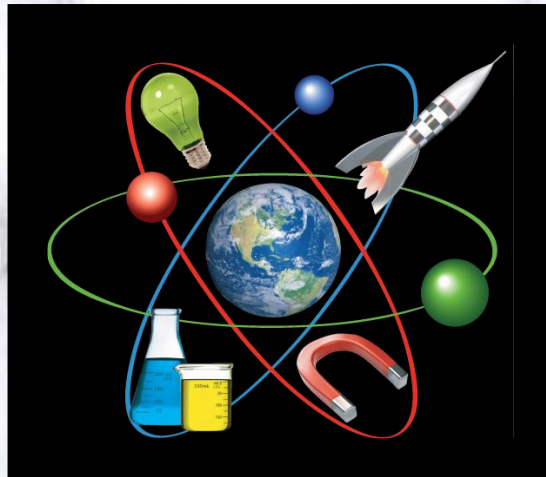




Fairbanks North Star Borough School District

SCIENCE CURRICULUM

Draft One



To view draft one in its entirety and to leave feedback, visit the district website at www.k12northstar.org/Page/8852.

Curriculum Revision Process

The Fairbanks North Star Borough School District is revising its Science Curriculum for grades 6-12. A strong and effective final document depends on careful deliberation of the proposed changes. Input from educators, parents, students, and the community is a critical factor in the curriculum revision process.

Per [Administrative Regulations 910 Appendix A](#), this process began with community input, reflections on student performance in the district, and research of current trends, best practices, and alignment to Alaska Standards. Each draft is made available to the public, and all feedback is reviewed and considered by the curriculum writers and the Department of Teaching and Learning.

To view draft one in its entirety and to leave feedback, visit the district website at www.k12northstar.org/Page/8852.

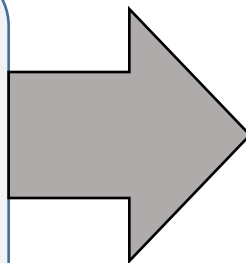
Questions from the Curriculum Writers

1. The curriculum writers are proposing an increase to the science graduation requirements. The writers discovered that a majority of universities are moving towards an admissions process that requires applicants to complete four credits of science in high school. In addition, completing more science credits increases the level of the [Alaska Performance Scholarship](#) available. Science courses also prepare students for post-secondary education at technical institutes and CTE careers. The list of science course options has expanded to include more Career and Technical Education (CTE) courses to help students complete the new graduation requirements. (See the list of course options at the beginning of the high school curriculum.) Do you support this change?



Current Graduation Requirements

- Students successfully complete a total of three credits of Science to include:
 - One credit of Physical Science
 - One credit of Biological Science
 - **One credit** of additional science electives.



Proposed Graduation Requirements

- Students successfully complete four credits of Science to include:
 - One credit of Physical Science
 - One credit of Life Science
 - **Two credits** of additional science electives.

2. Do you support the expansion of science options to include multiple CTE courses (see the question #1 above for more information).
3. Do you support a new literacy focused course titled *Life Science*?
4. The writers are proposing replacing *Honors Biology* with the purchase of *Pre-AP Biology*. Do you support this change?

Proposed Changes to Draft One

Middle School

The following changes were made to the middle school science curriculum:

- Standard MS-LS2 (on ecosystem interactions, energy, and dynamics) was moved from grade 6 to grade 7.
- Grade 6: standard MS-ESS1 (develop and use a model to describe the role of gravity in the motions within galaxies and the solar system) was added.
- Standard MS-PS2 (Motion and stability: forces and interactions) was moved from grade 6 to grade 8.

High School

1. The curriculum writers are proposing an increase in the Science graduation requirements. See a detailed explanation on the previous page.
2. New course:
 - *Environmental Science* has replaced *Natural Resources: Biology* and *Natural Resources: Physical Science*. Both Natural Resource courses already cover environmental science topics, and this new course has materials available for purchase.
 - *Pre-AP Biology* was added to replace *Honors Biology*.
 - *Wildlife Biology* is currently a pilot course offered at North Pole High School. This course has been added to the curriculum.
 - The curriculum writers are proposing a new literary focused science course title *Life Science*.
3. Course titles changed:
 - *Marine Biology* was changed to *Marine Science*, which is a more accurate description of the course.
 - *Forensic Science* and *Advanced Forensic Science* were changed to Forensic Science 1 and 2.
4. Some courses have been removed from the curriculum and archived. If a teacher or school is interested in offering one of the archived courses in the future, they can fill out a pilot proposal form and may offer the course, pending Teaching and Learning and superintendent approval. The following courses have been archived:
 - *Astrobiology*
 - *Chem Tech*
 - *Conceptual Physics*
 - *Microbiology*
 - *Natural Resources: Biology*
 - *Natural Resources: Physical Science*
5. Other major changes:
 - The standards listed in the curriculum are the Alaska Science Standards adopted in 2019, instead of the Next Generation Science Standards (NGSS). According to the published [Alaska Science Standards](#), they are largely the same as the NGSS.

- *Chemistry* - The unit on “redox reactions and electrochemistry” was removed from the Chemistry curriculum: This unit is listed as “time permitting” under the current curriculum and is not aligned to the standards.
- *Introduction to Basic Pathophysiology* – units were added about heart disease and cancer, as these are the top two killers in the world. Also, the topic on the immune system was made into its own unit.
- *Biology* – An unit on “ecology” was added to the first semester to allow the instructor to engage in place-based learning before winter snow sets in, and an unit on “biotechnology” was added.