

Guidance & FAQs

Science Graduation

Requirements

Introduction

The Oklahoma State Department of Education (OSDE) is dedicated to ensuring that all Oklahoma students engage in meaningful learning experiences during their K-12 years. With educators' help, high school students can successfully navigate graduation requirements and progress beyond the high school setting to a successful future.

This guidance document on high school science graduation requirements in Oklahoma (as outlined by State Statute [70 O.S. § 11-103.6](#)) is for both the College Preparatory/Work Ready and Core Diploma Pathways. Please review the [Curriculum Checklists](#) for all graduation requirements of each pathway.

In an effort to clarify information, the OSDE has compiled the following frequently asked questions and resources.

- [Frequently Asked Questions](#)
- [Linked Resources for Additional Guidance](#)
- [Contact OSDE](#)

Frequently Asked Questions

Q. What are the science course requirements for the College Preparatory/Work Ready Curriculum Pathway?

Students on this pathway are required to take three units or sets of competencies of laboratory science. This includes:

- One unit or set of competencies for life science meeting the standards for Biology 1
- One unit or set of competencies for the physical sciences, meeting the standards for Physical Science, Chemistry, or Physics
- One unit or set of competencies from the domains of physical science, life science, or Earth and space science such that the content and rigor is above Biology 1 or Physical Science

Q. What are the science course requirements for the Core Curriculum Pathway?

Students on this pathway are required to take three units or sets of competencies of science. This includes:

- One unit or set of competencies of Biology 1 or Biology 1 taught in a contextual methodology
- Two units or sets of competencies in the areas of life, physical, Earth science, or technology (review State Statute [70 O.S. § 11-103.6](#), paragraph 3, subsection B, for an example list of courses)

Q. When did the science graduation requirements change?

Science graduation requirements went into effect on July 1, 2018. All students graduating in 2019 and after must meet these requirements.

Q. What certification does a teacher need to teach Physical Science, Chemistry, or Physics?

To teach chemistry, a teacher must have a chemistry certification. To teach physics, a teacher must have a physics certification. To teach physical science, a teacher must have a physical science certification or a certification in chemistry **and** physics. Visit the [Office of Teacher Certification webpage](#) for more information.

Q. What courses meet the Physical Sciences requirement?

Any course aligned to the High School Oklahoma Academic Standards for Physical Science, Chemistry, or Physics meets the physical sciences graduation requirement.

Q. Do all students have to take the course titled “Physical Science” in order to meet high school graduation requirements?

No, students can also take chemistry or physics to meet the physical sciences requirement. Students on the Core Curriculum Pathway are not required to take a physical sciences course.

Q. When should students take their Physical Sciences requirement?

Several course pathways prepare students for college and career readiness in STEM and non-STEM related careers. For example, some students take Biology 1 in 9th grade, then Chemistry 1 or Physics 1 in 10th or 11th grade. Others take Physical Science in 9th grade, then Biology 1 in 10th grade. Both course pathways would meet 2 of the 3 science unit requirements for high school graduation.

Q. If students take a science course for high school credit in middle school, do they have to take three additional science credits in Grades 9-12?

No, they do not. However, if students take Physical Science or Biology 1 in 8th grade, **two things** should happen:

1. The course must be taught at or above the rigor of Biology 1 to meet the laboratory science credit for the College Preparatory/Work Ready Curriculum Pathway.
2. The 8th-grade science standards must be covered in addition to the Physical Science or Biology 1 standards.

Note that the 8th-grade standards contain concepts that serve as prior knowledge needed for high school Biology, the Physical Sciences, and Earth and Space Science, and are not covered in any other grade level or course standards. If students do not receive instruction over the 8th-grade standards they will miss concepts needed for high school courses and the 8th-grade statewide summative assessment.

Q. Once students have achieved their Biology 1 and Physical Sciences credits, what can students take to meet the third required science credit?

Students can take any other science course under the domains of physical science, life science, or Earth and space science. Review the most current subject code list on the [OSDE Accreditation webpage](#).

Q. Does Environmental Science count as one of the three laboratory science requirements?

Yes, Environmental Science does count as one of the three laboratory science requirements, if the course is designed to meet the Environmental Science standards found in the [Oklahoma Academic Standards for Science](#) **and** the course is not taken as a Pre-Biology course covering the Biology 1 standards.

Q. Does Agriculture Science count as one of the three laboratory science requirements?

It depends. Agriculture Sciences does not count as a laboratory science credit for students on the College Preparatory/Work Ready Pathways. This course would be counted as elective credit.

Agriculture Science does count as a science credit for students on the Core Curriculum Pathway. This subject code can be found on the [CareerTech course options list](#) and must be taught by an agricultural education certified teacher.

Q: For students enrolling in aviation-based courses, how might they be counted for graduation credit requirements?

Aviation-based courses meet graduation requirements for Computer Technology. For more information on aviation-based courses please review the [Aviation-Based Course Credits Guidance and FAQ](#).

Q. Do science courses support students wanting to earn a STEM Endorsement for their high school diploma?

The STEM Endorsement prepares students for careers in numerous fields that relate to science, technology, engineering, and mathematics (STEM). To earn a STEM Endorsement, students must complete 10 points from across the domains of engagement, as outlined in the [STEM Endorsement Guide](#). Students that take more than the three required science courses and if the additional course(s) is beyond the rigor of Biology 1, that science course(s) would count towards the “Additional Science Course” portion of the STEM Endorsement.

Linked Resources for Additional Guidance:

Oklahoma State Law

- [Title 70 \(Schools\) Legislation](#)
- [Oklahoma Graduation Requirements](#)

Oklahoma Academic Standards, Subject Codes, and High School Graduation Resources

- [Oklahoma Academic Standards for Science](#)
- [Oklahoma Subject Codes](#)
- [High School Graduation Resources](#)

Additional Resources for Schools

- [OSDE Science Website](#): This website provides resources, guidance, and support for science instruction.
- [Oklahoma Science Curriculum Framework](#): This website provides example instructional strategies for implementing the Oklahoma Academic Standards for Science (OAS-S).
- [OSDE High Quality Instructional Materials Website](#): This website provides robust reviews, guidance, and support for district-level adoptions of high quality instructional materials.
- [OKSci Toolkit](#): This document provides a list of resources to support educators in implementing the OAS-S.
- [OSDE STEM Website](#): This website provides research and resources for implementing high-quality STEM programs.

Contact Us

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