



To: All superintendents, curriculum directors, secondary principals, science teachers, career and technical education teachers

From: Dr. Rose Chu, Assistant Commissioner
Dr. Beth Aune, Director of Academic Standards
Dan Smith, Supervisor of Career and Technical Education
Richard Wassen, Director of Educator Licensing

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Subject: Using a Career and Technical Education (CTE) credit to meet the chemistry credit or physics credit requirement

Legislation passed in 2012 made significant changes to the graduation requirements for public school students. (Chapter 239—Omnibus K-12 Education Bill)

The intention of the legislation is to allow a student to complete a CTE credit to meet the chemistry or physics requirement, while still requiring full completion of the state high school chemistry or physics standards. School districts are responsible for ensuring the standards are delivered with integrity and that all students satisfactorily complete all required standards and required course credits.

Student Graduation Requirements for Science Standards and Credits

School districts are encouraged to consider the following when determining options for how their students will meet the state science requirements.

1. All students must satisfactorily complete all required state standards including the Minnesota K-12 Academic Standards in Science (2009). (Minn. Stat. § 120B.02)
2. All students must earn three course credits in science.
3. Of the 3 science credits, one credit must be in biology. (Minn. Stat. § 120B.024).
4. In addition to the biology credit, students who graduate in the 2014-2015 school year or later must complete a chemistry credit, a physics credit or a CTE credit that meets one of the following criteria.
 - a. The CTE course fulfills all the life science standards, all of the chemistry standards or all of the physics standards, OR
 - b. The CTE course partially fulfills the life science standards, the chemistry standards, the physics standards or a combination of those standards as approved by the district.

Students must satisfactorily complete the balance of the chemistry or physics standards that were not included in the CTE course. They can complete the “missing” standards through other courses (science courses, CTE courses, or other kinds of courses).

District Science Offerings

1. School districts must determine the options available to students for fulfilling the science standards and course credit requirements. At a minimum, the district must offer students at least 3 credits of science, including:
 - a. one credit in biology
 - b. one credit in chemistry or physics
 - c. one other science credit

Districts may choose whether to offer CTE as an option for meeting the chemistry, physics or other science credit requirement.

Teacher Qualifications

1. **Minnesota Rule 3505.1150 AWARDING SCIENCE, MATHEMATICS, OR ARTS CREDITS THROUGH CAREER AND TECHNICAL EDUCATION**, states: “A career and technical education course may fulfill a mathematics or arts credit requirement or a science credit requirement other than the specified science credit in biology ...”, if the district determines that appropriate science standards are met with integrity and the CTE teacher has passed the Subject Assessment and Specialty Area licensure test in the science area in which the credit is given.
2. Please note that the licensure test requirement above **does not apply to teachers of agriculture**, who are exempt under Minnesota Statutes, section 120B.024(b).

Relationships Among Standards, Credit, Licensure

1. Academic standards, course credit, additional legislated requirements, and licensure are four separate but related issues. Districts can consult the checklist attached to this document for specific points that should be considered.
 - a. **Standards:** Districts determine the course options or pathways through which students can complete the required standards. The state standards in one subject area (such as the science standards) can be completed through coursework in another subject area (such as CTE courses).
 - b. **Credit:** Districts determine the type and amount of credit to be awarded to students for the courses they satisfactorily complete. School districts are responsible for ensuring that the type of credit awarded (such as science credit or CTE credit) matches the content taught in the course. “Course credit” is defined in Minnesota Statute § 120B.024 as “a student successfully completing an academic year of study or a student mastering the applicable subject matter, as determined by the local school district.”
 - c. **Licensure:** Teachers must hold a valid license or the appropriate Board of Teaching permission for the subject matter they teach. If the course is a CTE course, the teacher

must hold a CTE license. If the course is a science course, the teacher must hold the correct science license. This legislation does not permit, for example, a CTE licensed teacher to teach a chemistry *course* or vice versa. However, a CTE licensed teacher could teach a CTE course that contains science *standards*. Likewise, a chemistry-licensed teacher could teach a chemistry course that contains local CTE standards but the chemistry-licensed teacher could not teach a CTE course.

- d. **Additional Legislated Requirements:** In addition to legislated requirements related to standards, credits, and licensure, there may be additional requirements for a specific subject area such as biology. Districts determine how students will meet these requirements in the context of legislation related to standards, credit and licensure.

For questions about using a CTE credit to meet the chemistry or physics credit requirement, please contact:

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Attachment: Checklist

Checklist for Using a CTE Credit to Meet the Chemistry or Physics Credit Requirement

The following are points that districts should consider when determining if and how students will use a career and technical education (CTE) credit to meet the chemistry or physics credit requirement.

Academic Standards	Course Credits	Biology Credit Requirement and Chemistry/Physics/CTE Credit Requirement	Licensure
<p><input type="checkbox"/> All students satisfactorily complete all science standards, including standards in:</p> <ul style="list-style-type: none"> • Nature of Science and Engineering • Earth and Space Science • Physical Science • Life Science • Chemistry or Physics 	<p><input type="checkbox"/> All students complete 3 science credits.</p>	<p><input type="checkbox"/> All students satisfactorily complete a biology credit.</p> <p><input type="checkbox"/> All students satisfactorily complete a chemistry, physics, or CTE (career and technical education) credit that meets the underlying chemistry, physics, or biology standards or a combination of those standards approved by the district.</p>	<p><input type="checkbox"/> The biology credit is taught by a licensed Life Science teacher or a teacher with the appropriate Board of Teaching permission.</p> <p><input type="checkbox"/> The chemistry, physics or CTE credit is taught by a licensed chemistry, physics, agriculture science teacher, or a CTE licensed teacher who has passed the Subject Assessment and Specialty Area licensure test in the science area in which the credit was given, or a teacher with the appropriate MN Board of Teaching permission.</p> <p>If the CTE licensed teacher has passed the test, the credit may count towards the 3-credit science requirement. If the CTE teacher has not passed the test, the chemistry/physics/CTE credit requirement is met but it does not count toward the 3-credit science requirement. **</p>

** Under Minnesota Statutes, section 120B.024 (b), a teacher of agriculture is exempt from the Subject Assessment and Specialty Area licensure test requirement for chemistry or physics.