

CHANGES TO GRADUATION REQUIREMENTS

(2013 Act 63)

GUIDANCE

Background

On December 11, 2013, 2013 Act 63 (previously 2013 SB 51) was enacted by the legislature and signed into law by the governor. The changes impact graduation requirements under s. 118.33 (1)(a), Stats. Specifically, the changes require an increase in the number of science and math credits required to graduate and provide additional options for students to earn math and science credit through career and technical education (CTE) courses and computer science courses. The changes first apply to high school diplomas granted to pupils in the 2016-17 school year (current freshmen). The actual statutory language can be found below or at <https://docs.legis.wisconsin.gov/statutes/statutes/118/33>.

As with any policy change questions arise. Please use the following guidance to help answer questions, and please forward additional questions to: Rebecca Vail, Content and Learning Team Director, rebecca.vail@dpi.wi.gov.

This guidance document is intended to be used in local district planning discussions to prepare for the new graduation requirement that all students intending to graduate during or after the 2016-17 school year successfully earn three (raised from two) credits of mathematics and three (raised from two) credits of science. See the revised statute below (emphasis added by DPI):

118.33 High school graduation standards; criteria for promotion.

(1)

(a) Except as provided in pars. (d) and (e), a school board may not grant a high school diploma to any pupil unless the pupil has earned:

1. In the high school grades, all of the following:

a. At least 4 credits of English including writing composition.

b. At least 3 credits of social studies including state and local government.

c. At least **3 credits of mathematics. The school board shall award a pupil up to one mathematics credit for successfully completing in the high school grades a course in computer sciences that the department has determined qualifies as computer sciences according to criteria established by the department. The school board shall award a pupil up to one mathematics credit for successfully completing in the high school grades a career and technical education course that the school board determines satisfies a mathematics requirement, but may not**

award any credit for that course if the school board awards any credit for that same course under subd. 1. d.

d. **At least 3 credits of science. The school board shall award a pupil a science credit for successfully completing in the high school grades each course in agriculture that the department has determined qualifies as science according to criteria established by the department. The school board shall award a pupil up to one science credit for successfully completing in the high school grades a career and technical education course that the school board determines satisfies a science requirement, but may not award any credit for that course if the school board awards any credit for that same course under subd. 1. c.**

e. At least 1.5 credits of physical education.

2. In grades 7 to 12, at least 0.5 credit of health education.

(am) The state superintendent shall encourage school boards to require an additional 8.5 credits selected from any combination of vocational education, foreign languages, fine arts and other courses.

Questions and Answers

1. What are the changes outlined in Act 63 that will impact students graduating in the 2016-17 school year?

School districts will need to require at least 3 credits of math (up from 2) and at least 3 credits of science (up from 2) for students to earn a diploma beginning in the 2016-17 school year. The act also provides additional options for students to earn math and science credits through CTE and computer science.

2. Does the graduation policy for the school district need to be changed?

There are several reasons a school district's graduation policy will need to be changed:

- To update the number of required math and science credits to 3.
- To acknowledge that a student successfully completing a course that the Department of Public Instruction (DPI) has determined qualifies as computer sciences will be awarded up to one math credit.
- To determine which CTE courses, if any, satisfy a math or science requirement, and will be awarded credit according to s. 118.33(1)(a), Stats.

3. If a student intending to graduate in 2015-16 does not graduate, will that student be held to the changes outlined in Act 63?

Yes. The law first applies to a high school diploma granted to a pupil in the 2016-17 school year. If a student needs to attend summer school to complete missing credits, as long as they are granted a 2015-16 diploma, they do not need the additional math or science credits.

4. If a student who is currently on-target to graduate during the 2016-17 school year charts a path to graduate early (in 2015-16), will that student be held to the changes outlined in Act 63

No. The law first applies to a high school diploma granted to a pupil in the 2016-17 school year.

5. Can a student take both a CTE course (approved by the Board) and a Computer Science course (approved by DPI) for 2 of the 3 math credits?

Yes.

6. Can a student take 2 CTE courses as part of the 3 required science or math courses?

A student could take a CTE course for a math credit and a different CTE course for a science credit. However, a student cannot count a CTE course for both one math and one science credit or take 2 CTE courses for two math credits or two CTE courses for two science credits.

7. Does a school board have to grant math credit for CTE courses?

The school board first needs to determine which CTE courses, **if any**, they approve to be equivalent math credit. Once courses, **if any**, are approved, math credit shall be granted.

8. How many math credits can a school board award for CTE courses?

Up to one credit.

9. Can a school board give partial math or science credit?

Yes. When a school board is determining what CTE courses will be approved for local equivalent math or science credits, they may choose to award partial credit (i.e. .5 CTE credit and .5 math credit for a welding course.) The teaching license required for those courses would be the same as if full equivalency credit is awarded--the proper CTE license.

10. Do colleges and universities have to accept locally determined credit as part of minimum entry requirements?

No. While the new law provides greater flexibility to local education agencies in awarding mathematics and science credit for a broader array of coursework, the new law does not require technical schools, two-year and four-year colleges and universities to accept these courses as part of their minimum entry requirements.

DPI has a long-standing partnership with Wisconsin higher education institutions around our Equivalency Credit process. Faculty has participated in and provided support for this rigorous process. Although it is not a guarantee, Wisconsin institutions have a history of accepting credits that were acquired through the DPI Equivalency Process for their minimum entry requirements. DPI recommends that school districts consider using this well established process to determine what CTE credits should be used to award math and science credit.

11. If a school district determines that specific CTE courses satisfy high school graduation requirements for mathematics or science, how shall the school district designate this on the student’s transcript?

School districts need to determine how those courses will be designated on the student’s transcript. There are some designations that are prohibited. See next question for more information.

11a. If a school district determines that specific CTE courses satisfy high school graduation requirements for mathematics or science, the school district will need to determine how those courses are recorded on the student transcript. Are there any designations that are NOT to be used?

Yes. School districts *shall not* use the same “equivalency” designation as provided through the DPI equivalency process.

The following *coding is only reserved for DPI approved courses*. Districts shall *not* use the following for locally determined equivalent courses:

- (ES) = equivalent for science
- (EM) = equivalent for mathematics
- (ESS) = equivalent for social studies
- (EE)= equivalent for English

12. If a student takes a course in middle school, does it count for high school credit?

Under 2013 Act 138, which was recently passed by the Wisconsin Legislature, it is up to the school board to decide whether to award high school credit. A school board can choose one of three options in awarding high school credit for a middle school math or science credit earned in grade 7 or 8:

1. No high school credit.
2. High school credit toward the 4 required English credits, 3 social studies credits, 3 math credits, 3 science credits, 1.5 credits of physical education, or .5 credit of health education under s. 118.33(1)(a), Stats., if the requirements in s. 118.33(1)(em), Stats., are met.
3. High school credit toward the additional 8.5 credits a school board may require from a combination of vocational education, foreign languages, fine arts, and other courses under s. 118.33(1)(am), Stats., if the requirements in s. 118.33(1)(em), Stats., are met.

It should be noted that CTE or computer science courses need to be completed in the high school grades to count for math or science credit. CTE or computer science courses could be taken in middle school for CTE or computer science credit under s.118.33(1)(am), Stats.

There are three requirements under s. 118.33(1)(em), Stats., that must be met in order to award high school credit for a credit a pupil earns in grades 7 or 8:

1. The pupil's performance on the state examination or a similar examination approved by the school board demonstrates that the pupil is academically prepared for coursework that is offered in the high school grades.
2. The credit is earned in a course that is taught by a teacher who is licensed to teach the subject in the high school grades.
3. The credit is earned in a course that is taught using a curriculum and assessments that are equivalent to the curriculum and assessments used to teach the subject in the high school grades.

13. Which courses are approved by DPI as Computer Science courses?

For the purposes of the new Wisconsin State Statute 118.33 (1) (a) 1.c.—High School Graduation Standards, DPI has established the following criteria that must be used in determining that a course is a Computer Science course, and therefore a school district may give math credit. A course must contain the following components:

- Algorithmic Problem Solving: Systematic study algorithms or processes that underlie the acquisition, representation, processing, storage, communication of, and access to information.

- Applications development: Applications development and applications design through coding, programming, and software engineering.
- Computational Design and Computational Intelligence: Study of the design of computational systems, understanding how computational systems work—and hands on application of mathematical processes within computational systems.
- Computational Thinking: Reason abstractly and quantitatively by making sense of quantities and their relationships in problem situations.
- Management Information Systems: Study of the access to information generated through computer systems (programming, databases, application development)—coding, database development, and the understanding of the applications used for computational processing and applications development.

The continued intent of this guidance is to ensure a computer science course that incorporates all of the established criteria will maintain a significant concentration of programming content as specifically listed in two out of five criteria. If a course contains the above components, then the course is considered approved by DPI as a Computer Science course, and a local school board may award math credit. More guidance on Computer Science courses can be found on DPI's website.

14. Does a local school district need to submit Computer Science courses to DPI for approval?

No. A local school district needs to ensure that the content of the course includes ALL components listed in Answer 13.

Teacher Licensure

15. What license does a teacher need to hold if they are teaching a CTE course that will result in math or science credit?

The teacher must hold the proper CTE license for the course that they are teaching. For example, an agricultural teacher must hold a 200 license to teach an agriculture course that the student will be receiving equivalent science credit.

16. Who can teach computer science courses for math credit?

A licensed computer science teacher who holds a 405 computer science license is required.

17. Does a computer science teacher teaching a DPI-approved computer science course need a 400 Mathematics license?

No.

Mathematics Standards

18. **What is the relationship between the new mathematics credit requirement outlined in Act 63, the new mathematics standards, and the new assessment system (the ACT at high school)?**

Wisconsin adopted the new mathematics standards in July of 2010, and in doing so, Wisconsin significantly raised the bar on mathematical expectations for all students K-12. The mathematics standards are college and career ready standards, meaning that students who successfully learn the Wisconsin mathematics standards can expect to enter into successful entry level work or credit bearing college coursework. In 2011, a panel of Wisconsin professors of education and mathematics reviewed the mathematics standards and affirmed the 12th grade expectations of the mathematics standards were consistent with entry level university coursework.

Beginning in the 2014-15 school year, Wisconsin high school students will also experience a new state assessment, the ACT. While over 60% of Wisconsin high school students currently take the ACT assessment, now all high school students will be tested using this system. The ACT is aligned to the new, more rigorous mathematics standards.

In making local determinations about awarding credit for courses that contain mathematics content, LEAs should look carefully at the mathematics standards to ensure that the breadth of grade-level appropriate content is evident in courses being considered for mathematics credit. Every high school student should have sufficient options for meeting the full breadth of the mathematics standards, whether through a traditional (Algebra, Geometry, Algebra-Trigonometry), integrated (Mathematics I, II, III), or a more flexible, locally determined path that includes a mixture of typical mathematics and CTE or computer science coursework.

Locally, LEAs might consider convening district-level curriculum teams of mathematics and CTE educators to examine the curriculum and syllabi of courses under consideration for mathematics credit to determine the alignment to the mathematics standards and to make any necessary modifications to ensure that the course is sufficiently rigorous. DPI is currently developing a number of tools to assist LEAs in examining a course through the lens of the new mathematics standards.

Alternatively, an LEA might consider using the DPI Equivalency Process to assist in making decisions about credit allotment and alignment to the mathematics standards. This process has already aligned several CTE courses with the mathematics standards and sample course syllabi and standards cross-walk tools have been developed and vetted by Wisconsin educators and higher education faculty. The rigor and transparency of the DPI Equivalency Process often helps institutions of higher education to more easily make sound decisions about whether a particular course will be recognized as a mathematics course by a particular institution. While not required for LEAs seeking to award mathematics credit for CTE courses, the Equivalency Process is a tool that districts are encouraged to use in charting flexible but rigorous options for students.

For more information on the DPI mathematics equivalency process, please visit http://te.dpi.wi.gov/te_tematheqresources.

19. Are there any tools to assist school districts in determining how to develop and sequence mathematics courses in high school to ensure students meet all of the Mathematics Standards State Standards in Mathematics?

DPI is currently working with several partners to develop a high school tool to examine mathematics curriculum. The High School Mathematics Curriculum Tool (HS MCT) is a tool that is intended to be used by districts to both build and examine their high school curriculum with a focus on important mathematical understandings that all students should acquire as a result of the series of courses they take during their high school career. The HS MCT helps districts explore and leverage the connections between specific standards and clusters of standards, leading to a more coherent planning of units and courses, preventing excessive overlap, and ensuring that students develop a solid understanding of mathematical ‘big ideas’ (critical concepts).

The HS MCT also highlights the important connections between mathematics content and the Standards for Mathematical Practice, allowing districts to effectively organize instruction around both content and practices. The HS MCT will help districts and teachers identify where the four big idea themes (equivalence, rate of change, predictability, and comparison) intersect with the content that is being taught across multiple courses. The end result will be for students to have a coherent understanding with the mathematics they experience. As such, the HS MCT will be the place in which teachers and districts can further explore the nature of the big idea themes and the connections to content and the Standards for Mathematical Practice. In addition to building and examining the district’s mathematics curriculum, the HS MCT can also be used by districts and school boards to determine whether or not courses, such as CTE courses, will broaden and deepen student understanding of mathematics concepts and content, and be used for math equivalency as allowed under WI ACT 63.

DPI hopes to have this tool ready for school district use sometime during the 2014-15 school year.

For questions about this information, contact [Rebecca Vail](mailto:Rebecca.Vail@dpi.wi.gov) (608) 266-2364.