MATH RULE REVISIONS

BACKGROUND

In 2007, the Washington State Legislature directed the Board to increase the high school math graduation requirements from two to three credits (equivalent to three years of high school level math) and to determine the content of the three credits. The Board adopted a new math rule (WAC 180-51-066) in July 2008, effective for students in the graduating class of 2013. As practitioners have begun to work with the rule, questions have arisen that have required rule changes or guidance in the form of FAQs.[1] For instance, the Board amended the rule in July 2009 to identify a clear path for students who took some of the required course work prior to ninth grade and did not request high school credit for it (see Attachment A, section (b)(v)).

OSPI held a webinar on the new math rule and end-of-course math assessments on May 10, 2010 attended by over 500 practitioners. During the course of that webinar, and in subsequent communications with SBE and OSPI staff, three implementation issues emerged that can only be addressed through a second amendment to WAC 180-51-066 (Attachment A shows the proposed new wording).

POLICY CONSIDERATION

The three implementation issues that the proposed rule amendment will address clarify:
- Provisions for taking classes simultaneously.
- What constitutes an appropriate sequence?
- Provisions for placing out of required courses.

In addition, some minor nomenclature changes are proposed.

Provisions for taking classes simultaneously. The current rule language stipulates that mathematics courses must be taken in a progressive sequence, implying that courses must be taken one after another. Practitioners have asked whether the rule permits students who have failed all or part of a course (e.g., algebra 1) to enroll in the next course in the sequence (e.g., geometry) while they were retaking the failed course.

Here is an excerpt from an e-mail we received about this issue:

I have a question about a policy we currently use in progressing students on from algebra 1 to geometry. Since algebra 1 is a building course, we currently allow students who fail semester one but pass semester two to progress on to the next course….Will our policy need to change since students in this case would have only earned a half credit?

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[1] See the SBE website Math—Third Credit FAQs: http://www.sbe.wa.gov

There appears to be no compelling educational reason to prohibit students from taking two courses simultaneously. Proposed sections (b)(iii)(A) and (B) address this issue (see Attachment A).

What constitutes an appropriate sequence. The current rule requires math courses to be taken in a "progressive sequence,"[2] and contains a provision that any combination of the three mathematics courses can be taken.[3] The intention was to:
- Allow flexibility for students to "mix and match" algebra/geometry courses with integrated courses, in the event that they moved between schools or districts that took different approaches.
- Stipulate that the courses needed to be taken in a progressive sequence, meaning a student who completed algebra 1 in District A would take integrated mathematics II in District B.

Questions have been raised about whether a progressive sequence could also mean students could take:
- Integrated mathematics I after completing algebra 1.
- Algebra 1 after completing integrated mathematics I.

Neither of the above examples are acceptable. The proposed rule change makes the expectations more explicit. Proposed revised sections (b)(i)(A-C) address this issue (see Attachments A).

Provisions for placing out of required courses. Some schools/districts allow students to place out of lower level courses through formal or informal assessment procedures (e.g., placement test, teacher assessments, etc.). Students are not awarded credit; rather, the assessment is used to assure they take the level of math most suited to their abilities.

Again, here is an excerpt from an e-mail we received:

> *The ramifications of these new requirements are substantial for the PRISM program. In the past, students have been allowed to take placement tests to "skip" entire math classes (so that they were in their "just right" math class each year). According to these new WACs, there is no provision at all for skipping any of those three courses. In other words, even if students study over the summer, or go to summer math camps, etc., they cannot skip algebra or geometry or advanced algebra. Those courses (or their equivalents) must be taken.*

The Board addressed a similar issue when it modified the rule to outline the sequence of courses needed for students who took algebra 1/integrated math I and/or geometry/integrated math II prior to ninth grade but elected not to put the credit on their transcript. The difference in this instance is that students are not taking the course(s), but placing out of them.[4] The proposed new language of sections (b)(vi) and (b)(vii) mirrors the language of (b)(v)(B)(I) and (II), approved by the Board in July 2009.

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[2] See (b)(i) of WAC 180-51-066 as adopted. (Attachment A)
[3] See (b)(i)(C) of WAC 18-51-066 as adopted. (Attachment A)
[4] Students will still need to take the end-of-course assessments in algebra1/integrated mathematics I and geometry/integrated mathematics II, even if they place out of the class.

Nomenclature changes. Minor nomenclature changes will more accurately reflect common usage in the field: changing algebra I to algebra 1; algebra II to algebra 2. In addition, the words, "high school-level" have been inserted in section (b)(ii) to reinforce the expectation that a third credit of mathematics other than algebra 2 or integrated mathematics III will be high school level math.

EXPECTED ACTION

Give staff direction about any revisions needed to the draft language and approve language for filing with the Code Reviser proposing amendments to WAC 180-51-066 in preparation for a public hearing in September 2010.

WAC 180-51-066
Minimum requirements for high school graduation — Students entering the ninth grade on or after July 1, 2009.

(1) The statewide minimum subject areas and credits required for high school graduation, beginning July 1, 2009, for students who enter the ninth grade or begin the equivalent of a four-year high school program, shall total 20 as listed below.

. . . .

(b) Three **mathematics** credits that align with the high school mathematics standards as developed and revised by the office of superintendent of public instruction and satisfy the requirements set forth below:

(i) Unless otherwise provided for in (b)~~(iii) or~~ (iv) through (vii) of this subsection, the three mathematics credits required under this section must include ~~mathematics courses taken in the following progressive sequence~~:

(A)   Algebra ~~I~~1 or integrated mathematics I ~~, geometry, and algebra II; or~~

(B)   ~~Integrated mathematics I~~ Geometry, or integrated mathematics II~~, and integrated mathematics III; or~~ and

(C)   ~~Any combination of three mathematics courses set forth in (b)(i)(A) and (B) of this subsection~~ Algebra 2 or integrated mathematics III.

(ii) A student may elect to pursue a third credit of high school-level mathematics, other than algebra ~~II~~ 2 or integrated mathematics III if all of the following requirements are met:

~~(A) The student has completed, for credit, mathematics courses in:~~

~~(I) Algebra I and geometry; or~~

~~(II) Integrated mathematics I and integrated mathematics II; or~~

~~(III) Any combination of two mathematics courses set forth in (b)(ii)(A)(I) and (II) of this subsection~~

~~(B)~~ (A) The student's elective choice is based on a career oriented program of study identified in the student's high school and beyond plan that is currently being pursued by the student;

~~(C)~~ (B) The student's parent(s)/guardian(s) (or designee for the student if a parent or guardian is unavailable) agree that the third credit of mathematics elected is a more appropriate course selection than algebra 2or integrated mathematics III because it will better serve the student's education and career goals;

~~(D)~~ (C) A meeting is held with the student, the parent(s)/guardian(s) (or designee for the student if a parent or guardian is unavailable), and a high school representative for the purpose of discussing the student's high school and beyond plan and advising the student of the requirements for credit bearing two and four year college level mathematics courses; and

~~(E)~~ (D) The school has the parent(s)/guardian(s) (or designee for the student if a parent or guardian is unavailable) sign a form acknowledging that the meeting with a high school representative has occurred, the information as required was discussed; and the parent(s)/guardian(s) (or designee for the student if a parent or guardian is unavailable) agree that the third credit of mathematics elected is a more appropriate course selection given the student's education and career goals.

(iii) Courses in (b)(i) and (ii) may be taken currently in the following combinations:

(A) Algebra 1 or integrated mathematics I may be taken concurrently with geometry or integrated mathematics II.

(B) Geometry or integrated mathematics II may be taken concurrently with algebra 2 or integrated mathematics III, or a third credit of mathematics to the extent authorized by section (b)(ii).

 (iii) (iv) Equivalent career and technical education (CTE) mathematics courses meeting the requirements set forth in RCW 28A.230.097 can be taken for credit instead of any of the mathematics courses set forth in (b)(i)(A) or (B) or (ii)(A)(I) or (II) of this subsection if the CTE mathematics courses are recorded on the student's transcript using the equivalent academic high school department designation and course title.

 (iv) (v) A student who prior to ninth grade successfully completed algebra I1 or integrated mathematics I, ;and/or geometry or integrated mathematics II, or any combination of courses taken in a progressive sequence as provided in (b)(i)(C) of this subsection, but does not request high school credit for such course(s) as provided in RCW 28A.230.090, may either:

 (A) Repeat the course(s) for credit in high school; or

 (B) Complete three credits of mathematics as follows:

 (I) A student who has successfully completed algebra I or integrated mathematics I shall:

 • Earn the first high school credit in geometry or integrated mathematics II;

 • Earn a the second high school credit in algebra II 2 or integrated mathematics III; and

 • Earn a the third high school credit in a math course that is consistent with the student's education and career goals.

 (II) A student who has successfully completed algebra I or integrated mathematics I, and geometry or integrated mathematics II, shall:

 • Earn the first high school credit in algebra II 2 or integrated mathematics III; and

 • Earn the second and third credits in mathematics courses that are consistent with the educational and career goals of the student.

 (vi) A student who satisfactorily demonstrates competency in algebra 1 or integrated mathematics I pursuant to a written district policy, but does not receive credit under the provisions of WAC 180-51-050, shall complete three credits of high school mathematics in the following sequence:

 • Earn the first high school credit in geometry or integrated mathematics II;

 • Earn the second high school credit in algebra 2 or integrated mathematics III; and

 • Earn the third high school credit in a mathematics course that is consistent with the student's education and career goals.

 (vii) A student who satisfactorily demonstrates competency in algebra 1 or integrated mathematics 1 and geometry or integrated mathematics II pursuant to a written district policy, but does not receive credit for the courses under the provisions of WAC 180-51-050, shall complete three credits of high school mathematics in the following sequence:

 • Earn the first high school credit in algebra 2 or integrated mathematics III;

 • Earn the second and third high school credits in courses that are consistent with the educational and career goals of the student.