Coeur d'Alene Public Schools
DIVISION OF TEACHING AND LEARNING
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High School Mathematics Pathways FAQ

Date of Last Update: May 8, 2017

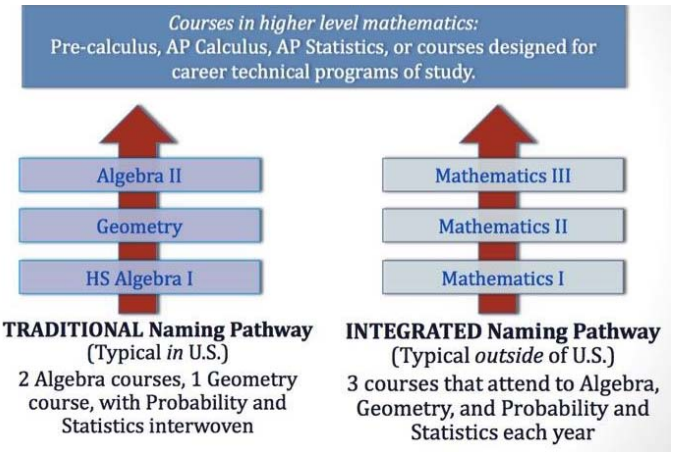
Why a Different Approach?

The decision to recommend an integrated mathematics pathway reflects Coeur d'Alene Public School's commitment to offering students the highest quality mathematics program. The preferred pathway offers the opportunity to focus on developing conceptual understanding and to help students see how the disciplines of mathematics are intertwined. The countries that consistently outperform the United States on the Program for International Student Assessment (PISA) have long embraced integrated mathematics. The ISAT statewide mathematics assessment in tenth grade is an integrated exam as are both the PSAT and SAT exams – taken by students statewide. These are just two of the compelling reasons that our district is recommending implementing the standards through a new course sequence – Math I, Math II, and Math III. Furthermore, knowing that our existing kindergarten through middle school programs already use an integrated approach to mathematics instruction, allows for a more natural extension of these programs in high school and provides additional rationale for selecting an integrated pathway.

Other large districts in Idaho have transitioned to an integrated pathway including West Ada (Meridian), Boise, Pocatello, and Weiser. Idaho Falls School District is also planning an integrated approach.

What Is the New Approach?

The integrated approach is a sequence of three courses, each of which covers portions of our existing algebra, geometry, and statistics standards and course content. The theory underlying this approach is that, in the real world, problems do not come in a box labeled "algebra" or "geometry." By using a consolidated approach, students **can decide** what skills to call upon to solve a problem, no matter the content area. Students can use a combination of skills from algebra, geometry, and statistics, depending on their analysis and approach to solving a problem.



How Are the Approaches in Integrated Mathematics Similar and Different?

Traditional and integrated courses cover the same content and practice standards. Across the three courses, students in the traditional pathway will study the same content and mathematical practices as students in the integrated pathway.

The difference between the traditional and integrated pathways is how the standards are organized into courses. For example, in the traditional pathway, geometry is its own course. In the integrated pathway, geometry standards are included in all three courses. The integrated pathway is intended to promote understanding of the connections across all conceptual categories, as standards from all conceptual categories are included in each of the three courses. Stated differently, the integrated pathway is intended to promote coherence across the various domains.

What Do the Idaho Core Standards Require and How Will an Integrated Pathway Help Students Meet These Requirements?

Independent of the names of the courses students take, the Idaho Core requires all high school students to develop integrated understandings of algebra, geometry, and data analysis, where concepts, skills, and representations in each content strand support concepts, skills, problem solving, and reasoning in the other strands. Students are assessed on their understanding of these concepts on the 10th grade ISAT.

Will There Be Course Materials for Integrated Courses?

Yes. We plan to use our existing *Big Ideas Math* materials for our high school courses and add additional classroom technologies to support individualized learning.

Will Teachers Be Prepared to Teach Integrated Courses?

Yes. To support teachers in the transition to teaching the new courses, we are committed to providing professional development for all middle and high school math teachers. We plan to partner with an external provider and adjust supports within our current instructional coaches to support teachers. Each of our secondary math teachers are credentialed to teach both in traditional and integrated pathways.

What Is the Timeline for Implementation of the Integrated Math Pathway?

We are asking the Board to begin our implementation in the 2017-2018 school year with all Algebra 1 courses being converted to Math I. Math II will be developed in the 2017-2018 school year for implementation in the 2018-2019 school year. Math III course development will be completed during the 2018-2019 school year for implementation in the 2019-2020 school year. We are also evaluating the implementation of an ALP pathway at the high school level.

How Did Coeur d'Alene Public School Make the Decision to Recommend an Integrated Pathway?

Beginning in April 2014, the district's *ad hoc* community advisory committee, a multi-stakeholder group, consisting of high school and middle school mathematics department teachers, curriculum specialists, university professors, administrators, and community members began a conversation to develop a comprehensive picture of math instruction in SD271, to cultivate a clear understanding of our collective interests related to math instruction, and to identify the options for math pathways that will effectively achieve those interests. Our committee carefully researched options and discussed with several local school districts in to gain more information and ascertain the strengths and weaknesses of moving to an integrated pathway. Our math instructional coach has been meeting with department chairs met with their departments in January to share research and gain feedback from all secondary math teachers across our district. This ultimately led to our recommendation towards an integrated mathematics pathway. Our goals include continuing to prepare students for excellence in advanced high school mathematics courses such as: AP Calculus (AB and BC), and AP Statistics as well as meeting college and career ready benchmarks.

Will High Schools Offer Courses in Both the Traditional and Integrated Pathways?

Yes and no. As we transition to the Integrated Mathematics Pathway, we will have both integrated and traditional courses in our high schools. We have students who are currently enrolled in Algebra 1. All currently enrolled students who have successfully completed an Algebra or Geometry course will continue in the traditional mathematics pathway through high school graduation. However, as we phase in the integrated courses, the corresponding traditional course will be phased out as there will no longer be students who need them. For instance, secondary schools no longer offer Algebra 1 and instead offer Math I. In the 2018-2019 school year, Geometry will be replaced by Math II, and in the 2019-2020 school year Algebra 2 will be replaced by Math III.

Why Are So Many Districts and/or States Moving towards Integrated Mathematics?

With the inclusion of the integrated mathematics approach in the new state standards, many districts and states are choosing to make the move now in recognition that an integrated mathematics pathway reflects the new standards' emphasis on building conceptual understanding and making connections. For a more complete answer, follow the link below to an article from *Education Week*, November 2014. "In Transition to Common Core, Some High Schools Turn to Integrated Math"
http://www.edweek.org/ew/articles/2014/11/12/12cc-integratedmath.h34.html

Will These New Courses Meet the High School Math Requirement for High School Graduation?

Yes. Idaho's graduation requirements ask that students take "Two semesters of Algebra I or courses that meet Algebra I standards," (repeated for Geometry) therefore our new pathway would be appropriate. The state also requires 2 credits of mathematics in the Senior year.

Will Public and Private Universities Accept Integrated Mathematics Courses?

Yes. The State of Idaho recognizes both the integrated and traditional pathways - similar to other state systems. Private universities across our nation and world set their own admissions requirements, so it is imperative that students fully understand those requirements. Our transmitted transcripts will include descriptions of the new course sequence to assist admissions counselors at the receiving university.

Have further questions?

It's important to us that you have your questions answered. If you need to know more, please contact our District Office at (208) 664-8241 or send an email to info@cdaschools.org.