

## [Opinion] Aligning Math from K-12 Through College and Beyond

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For the past decade, Oregon educators have been reimagining math pathway options that clearly connect student needs and interests to math instruction, and K-12 curricula to higher education math classes. Now, this equity-driven thought-work is becoming a reality. To support it, [The Oregon Math Project](#) is engaged in an exciting collaborative opportunity to connect with other states working on math pathways through the Dana Center [Launch Years Initiative](#). The goal of this initiative is to support the scaling of mathematics pathways from high school through postsecondary education and into the workplace, aligned to students' goals and aspirations. Participation in the Launch Years Initiative is an opportunity for Oregon to share our work and learn from twenty other states working on math pathway options.

To prepare our students for 21st century careers, our system of math education must respond to meet the educational and career needs and aspirations of all students. Every student should have math course options that align with their educational goals and career aspirations. This includes students of color and students experiencing poverty who have been traditionally underserved by our education systems. Reimagining 21st century systems for math includes both new course options and attending to instructional approach that ensures all students not only succeed but have a deep, long-lasting, and applicable understanding of the concepts they are learning.

To that end, Oregon educators from across the state, representing K-12, community colleges, and public universities, have come together to identify ways to improve alignment in math instruction in support of student success. This work builds on the implementation of Common Course Numbering (CCN) for key math classes at public colleges and universities, facilitating smoother transfer from one Oregon public institution to any other.

### How will K12 prepare students for college and university?

Math is a versatile subject that can be practical and engaging across a variety of topics. At some point, math content becomes more specialized where students will need options that allow them to study content needed to pursue their personal interests and goals. Within the Oregon math pathway model, this occurs at a student's third high school math credit where a student could choose an option that aligns with their goals and interests. In this way, students are better prepared for learning after high school graduation, including CTE and baccalaureate pathways.

### What pathway options could be available to Oregon students?

In addition to the path to Calculus, students need options that may include data literacy, statistics, computer science, and quantitative reasoning. There is no single path that meets all students' needs. All pathway options will start in a common two credit high school sequence that provides a common foundation in algebra, geometry, and data content. In the coming years, specialized course options, such as data science and financial algebra, will become available in addition to existing course options

of advanced algebra and pre-calculus content. All courses will be designed to develop reasoning and problem-solving skills as a foundation for future learning, successful careers, and life as informed and engaged citizens.

### How will the math pathways work change how students apply and are admitted to university or transfer?

To ensure alignment across systems, ODE and HECC partnered with the Dana Center to review current admission requirements at Oregon public colleges and universities, and ODE and HECC drafted recommendations to create more admission practices to recognize a variety of third credit options that could be created in K-12. An updated policy was adopted where high school Algebra 2 would no longer be named in admissions requirements for Oregon universities. In its place would be a more general requirement of three credits of high school math that would be consistent with Oregon graduation requirements. Courses would still need to be at the high school content level of “Algebra 1 and above” but could include additional high school course options. This gives Oregon’s high schoolers more options and, down the road, removes potential procedural barriers to admission for transfer students.

### How might math pathways impact dual credit opportunities long-term?

In the long term, high school pathway options could open more opportunities for students to enroll in college level courses before they graduate. The Common Course Numbering project has identified common outcomes for entry level courses of Pre-Calculus (MTH 111Z/112Z), Math in Society (MTH 105Z), and Elementary Statistics (STAT 243Z). Each course could represent a dual credit opportunity that builds on the high school content and gives students an option to earn college credit before they graduate.