High School Math Scope & Sequence

TLC Committee 2/16/2023
Stamford Public Schools believe that...

- Math literacy and math successes are necessary for all SPS students.
- In order to achieve math literacy and success, all SPS students must be continuously exposed to relevant and applicable curriculum, instruction that is multimodal and allows and encourages students to grapple with big ideas, and assessment that is authentic and appropriately captures student learning and understanding.
- Math must be demystified and made accessible to all SPS students.
- SPS students are not limited in their potential for success in math. Students must be provided time to dive deeper into concepts without solely focusing on computation, speed, and the “right answer.”
- Tier 1 instruction with intentional scaffolding and supports are absolutely critical to create a strong mathematical foundation and build self-esteem in math.
- Families, educators, and community members are partners and will collaborate to support student mathematical development.
SPS K-12 Math Committee Commitment

Stamford Public Schools’ commitment to our students, teachers, families, and community is to...

- Provide all students with the challenges and guidance they need to feel good about math, realize their brilliance, and achieve great things.
- Support students to persevere through the unknown to find ways to help them access and learn math in a positive environment.
- Value our students’ strengths and hard work by being kind and fair in our understanding of where our students are and our expectations of them.
- Clearly communicate with transparency and openness regarding our programming, assessments, and choices made for our students.
- Demonstrate how deep foundational knowledge of mathematical principles apply to more than coursework and prepare students for the math needed for life beyond their SPS education.
- Demystify math for students by defining essential learning that is common across the district and implementing coherent and challenging curriculum.
- Connect our teaching and learning to our families to engage them and their support.
- Support teachers’ success by providing coherent and challenging curriculum and materials, training and coaching, opportunities for collaboration, and funding.
Our students will regularly engage with content through the standards of mathematical practice as described in the Connecticut Core Math Standards. Students will...

- Make sense of math problems and persevere in solving them
- Reason abstractly and quantitatively
- Construct viable arguments and critique the reasoning of others
- Model with mathematics
- Use appropriate tools strategically
- Attend to precision
- Look for and make use of structure
- Look for and express regularity in repeated reasoning
Content Area Teams-Secondary (CAT-S)

Math and Science teachers talking about the sequence and content of our courses:

- within math
- within science
- the alignment between the two
Two choices in Math Course Sequences

- Algebra 1 → Integrated Math I
- Geometry → Integrated Math II
- Algebra 2 → Integrated Math III
What is Integrated Math?

- Aligned to Connecticut Core Mathematics Standards
- An integrated approach to mathematics where algebra and geometry are taught together over a three-year period
- Other topics such as probability and statistics are included
Same Units in a Different Sequence

<table>
<thead>
<tr>
<th>Algebra 1</th>
<th>Integrated Math 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 units of Algebra 1</td>
<td>6 units of Algebra 1 and 2 units of Geometry</td>
</tr>
<tr>
<td>Geometry</td>
<td>Integrated Math II</td>
</tr>
<tr>
<td>8 units of Geometry</td>
<td>2 units of Algebra 1, 2 units of Geometry and 4 units of Algebra 2</td>
</tr>
<tr>
<td>Algebra 2</td>
<td>Integrated Math III</td>
</tr>
<tr>
<td>8 units of Algebra 2</td>
<td>4 units of Geometry and 4 units of Algebra 2</td>
</tr>
</tbody>
</table>

The same 24 units are taught in both sequences
Benefits of Integrated Math

- Takes math learning out of silos and teaches students how to make connections across mathematical disciplines
- Enables students to use a combination of skills from algebra, geometry, and statistics to solve a problem based on their analysis and individual approach to problem solving
- Removes the “geometry gap” year between Algebra 1 and Algebra 2
- Effectively supports the mathematical demands of our science programs
- Aligns with the content areas covered on the PSAT and SAT
- The IM I, IM II, IM III sequence aligns with The International Baccalaureate® (IB) Middle Years Programme (MYP) and offers the required foundations for Advanced Placement and Early College courses
3 Year Rollout

2023-2024 - Integrated Math I only
Any student who was previously determined ready for Algebra 1 will take Integrated Math I

2024-2025 - Integrated Math I and II
Any student who was previously determined ready for Algebra 1 will take Integrated Math I
Students who have successfully completed Integrated Math I will take Integrated Math II

2025-2026 - Integrated Math I, II, and III
Any student who was previously determined ready for Algebra 1 will take Integrated Math I
Students who have successfully completed Integrated Math I will take Integrated Math II
Students who have successfully completed Integrated Math II will take Integrated Math III
Next Steps

Parent Pop-Up Wednesday, March 1 at 7:00pm for all middle school parents to explain the shift

Work with teachers and administrators to choose curriculum materials (Winter 2023)

Create the SPS curriculum for Integrated Math I (Spring/Summer 2023)

Design Common Formative/Summative assessments for Integrated Math I (Spring/Summer 2023)

Provide Professional Development for Teachers (ongoing)

Create and Develop SPS curriculum and assessments for Integrated Math II and III (Spring/Summer 2024)

Design pathway/industry specific math courses that may replace Integrated Math II and/or III for students in particular pathways (Spring/Summer 2024)