The Law:

"In order to receive a diploma indicating graduation from secondary school, a student must demonstrate that the student engaged in educational experiences relating to… math in each year of the student's secondary schooling"

Related Policy, as recommended by CHRHS Math department:

Starting with the class of 2021, students must earn a total of 3.0 math credits and have an additional math experience in order to graduate.

A student can easily meet the requirements of the law by completing 4 math classes, one in each of the student's four years of high school. If the student wants to take 3 math classes, they can meet the requirements of the law by completing an approved math learning experience (see the list on the next page) during any years in which they are not taking a math course.

Minimum standard for a "learning experience":

CHRHS Course/approved course outside of CHRHS*:* A student will have satisfied the minimum requirements for a ***learning experience*** if they complete any single **semester** of a CHRHS math/other approved math credit course with a grade of at least 70%. This includes any approved math courses that may happen online or out of the building through URock, UMaine, UMaine Hutch, BYU, Keystone, Odysseyware or another accredited institution. This also includes any

Alternative Path*:* In order to satisfy the requirement in a way other than a CHRHS course, MCST course, or other accredited math course, a student must demonstrate that they have *learned math* within some other experience. Because a wide range of acceptable non-course experiences exist, it is impossible to fully define the minimum requirements that appropriately address every possible case. Any student who chooses an alternative pathway will therefore be required to complete a proposal (see attached "Proposed Math Learning Experience" document) which defines the activity that they will do, the specific math practice learning goals they hope to achieve within that activity, a timeline, and the name of an advisor who will certify when the student has achieved the proposed learning goals. The proposal will be submitted to the math department chair and reviewed by the full math department for approval. Once approved, it then becomes the student's responsibility to keep a detailed notebook/portfolio. This portfolio will have an introduction explaining the learning experience and the list of all math practices targeted by the experience. Next, _specific evidence_ of how the math practices were met must be provided. In addition, there should be a personal summary of the experience which includes things you learned that you may not have expected to, your recommendation for others with similar interest in an experience like yours, etc.. There is not an expectation that all math practices are met during this alternative activity, but that one or more practices is met.

Note: The math department opposes the notion of merely "logging hours" to satisfy the requirement of a learning experience in a way other than completing a CHRHS course, as merely being present in an activity does not equate with actual learning.

What happens if a student does not meet the minimum standard for a math "learning experience" within any year of their secondary schooling?

If a student fails to meet the minimum standard for a math learning experience within any academic year, they will be required to complete it during the following semester of school. This would require them to take two math experiences in the same year.
Note this could impact when a student is able to graduate.

Approved Math Learning Experiences for Graduation at CHRHS

○ **CHRHS courses** (no evidence required):
  ● Any CHRHS math course.
  ● Any CHRHS science course taken during a student's senior year.
  ● Any Makerspace course.
  ● Math courses taken outside of CHRHS through an accredited and approved program (such as URock, BYU, Keystone, Odysseyware, etc.).
  ● Science/computer science courses taken outside of CHRHS through an accredited and approved program.
  ● Accounting I & II
  ● Economics
  ● Entrepreneurship
  ● Personal Finance
  ● Marketing
  ● Introduction to Computer Programming
  ● Graphic Design
  ● Web Design
  ● Creative Sewing
  ● Interior Design
  ● Culinary and Cultural Studies
  ● Culinary Discoveries
  ● Welding
  ● Innovation Engineering
  ● Applied Career Exploration & Success (ACES)
● **MCST COURSES** (no evidence Required):
  ○ Any MCST Course with the exception of Auto Body or Outdoor Leadership
	● *Alternate Paths* * (semester long; prior approval required; must pre-plan and document active involvement/learning; **evidence required**):
	Include, but are not limited to:
	  ■ Wind Planners
	  ■ Robotics Club
	  ■ Math or technology-related internships or job shadowing
	  ■ Pop Tech or similar conferences
	  ■ Skills USA
	  ■ Summer program, such as BLOOM or MERITS
	  ■ Tech crew of a musical or play
	  ■ Independent study of mathematics
	  ■ Other student-generated plan that meets the requirements of the law

○ **Notes/clarifications:**
  ■ You need a math experience **all four years**, but only **3 credits.** A typical sequence may look like: *9th grade - Algebra 1 (experience and credit), 10th grade - Geometry (experience and credit), 11th grade - Algebra 2 (experience and credit), 12th grade - One course off the approved list above (may be a math credit and experience or just a math experience).*
  ■ We recommend taking the three credits of math during your *9th, 10th, and 11th grade years* to ensure you have time for credit recovery if needed. Students must complete through Algebra 2 as a minimum.
  ■ **The math department strongly recommends that college bound students take a math class all four years.**
  ■ You may have a class count for a credit in another subject, AND a math experience at the same time. For example, taking physics your senior year would be a science credit and a math experience.
  ■ If you fail a class with a 60-69% and take a credit recovery, passing your credit recovery will regain your credit/experience from the previous year, but will not count as your math experience for the current year. You will need to take an additional math credit/experience the year you do credit recovery.
  ■ If you fail a class with <60% you will still receive a math experience for that year, and you should retake the course for a math experience/credit the following year.

Proposed Math Learning Experience

Maine state law and school board policy requires that every student engage in a math learning experience each of his/her high school years.

Complete this form for each year you will *not* be taking an approved math learning experience listed above.

This form must be submitted to the math department chair no later than **May 15** of the year **prior** to the year you will be completing this plan.

Name _____

Year of Graduation _____

Year you will be completing this plan _____

1. Describe the math learning experience you will engage in and what you plan on learning within that experience.

2. How will you document and certify that you have engaged in this experience and met your learning goals?

3. Who will be your advisor (name and contact information), and how often will you check in with him/her?

4. On what date will you complete this learning experience (earlier than May 1)?

8 Math Practices

Standard for Mathematical Practice	**Student Friendly Language**
1. Make sense of problems and persevere in solving them.	1. I can try many times to understand and solve math problems.
2. Reason abstractly and quantitatively.	2. I can think about math problems in my head, 1st.
3. Construct viable arguments and critique the reasoning of others.	3. I can make a plan, called a strategy, to solve a problem and discuss other students' strategies too.
4. Model with mathematics.	4. I can use math symbols and numbers to solve problems.
5. Use appropriate tools strategically.	5. I can use math tools, pictures, drawings, and objects to solve problems.
6. Attend to precision.	6. I can check to see if my strategy and calculations are correct.
7. Look for and make use of structure.	7. I can use what I already know about math to solve math problems.
8. Look for and express regularity in repeated reasoning.	8. I can use strategies that I used in solving previous math problems.

Remember, your portfolio will have an introduction explaining the learning experience and the list of all math practices targeted by the experience. Next *specific evidence* of how the math practices were met must be provided. In addition, there should be a personal summary of the experience which includes things you learned that you may not have expected to, your recommendation for others with similar interest in an experience like yours, etc..