Future-Ready Core Course of Study Mathematics Graduation Requirements
Effective 2010-2011 and 2011-2012

(Policy HSP-N-004 from http://sbepolicy.dpi.state.nc.us/)

Four units in mathematics for every student:

Effective with the Freshman Class of 2009-2010, Four Mathematics units are required for graduation: [Algebra I, Geometry, Algebra II] OR [Integrated Mathematics I, II, III] plus a fourth mathematics course to be aligned with the student's after-high-school plans.

4 years of mathematics—suitable for UNC General Administration admissions requirements

Core Mathematics Courses		
Algebra I (2023) Geometry (2030) Algebra II (2024)	*OR*	Integrated Mathematics I (2051) Integrated Mathematics II (2052) Integrated Mathematics III (2053)

Plus a fourth course to be aligned with the student's after-high-school plans

Courses that are accepted by the UNC General Administration for admission to UNC institutions

Courses from the NC Standard Course of Study for Mathematics		*Community College Mathematics Courses accepted by the UNC General Administration as the "4th Math"*
Advanced Functions and Modeling (2025) Discrete Mathematics (2050) Pre-Calculus (2070) Integrated Mathematics IV (2054) AP Statistics (2066) AP Calculus (AB) (2076) AP Calculus (BC) (2077)	*Note: Equivalent IB math courses are acceptable for admissions to UNC institutions.*	MAT 155 and MAT 155A (Statistical Analysis) MAT 171, MAT 171A (Pre-Calculus Algebra) AND MAT 172, MAT 172A (Pre-Calculus Trigonometry) MAT 175 and MAT 175A (Pre-Calculus) MAT 252 and MAT 252A (Statistics II) MAT 271 and MAT 271A (Calculus I) MAT 272 and MAT 272A (Calculus II)

4 years of mathematics—suitable for entrance to some universities as well as Community Colleges and Technical Schools

Core Mathematics Courses		
Algebra I (2023) Geometry (2030) Algebra II (2024)	*OR*	Integrated Mathematics I (2051) Integrated Mathematics II (2052) Integrated Mathematics III (2053)

Plus a fourth course to be aligned with the student's after-high-school plans

Courses that are not accepted by the UNC General Administration for admission to UNC institutions but may be suitable for meeting the "4th Math" for high school graduation

Mathematics Electives	*CTE[4] Courses that are acceptable substitutions for the "4th Math"*	*Community College Mathematics Courses*
Analytical Geometry (2031) *Trigonometry (2041)* *Probability & Statistics (2065)* *Calculus (2073)* *Special Topics in Math (2063)*	Computerized Accounting II (6312) Drafting II (7972) AP Computer Science (2508) Principles of Technology I (8011) Electronics I (7631) PLTW Introduction to Engineering Design (8020) PLTW Principles of Engineering (8021) PLTW Digital Electronics (8022) PLTW Computer Integrated Manufacturing (8030) PLTW Civil Engineering and Architecture (8031) PLTW Biotechnical Engineering (8032) PLTW Aerospace Engineering (8033) PLTW Engineering Design & Development (8040)	MAT 140 and MAT 140A (Survey of Mathematics) MAT 141 and MAT 141A (Mathematical Concepts I) MAT 142 and MAT 142A (Mathematical Concepts II) MAT 145 and MAT 145A (Analytical Math) MAT 151 and MAT 151A (Statistics I) MAT 161 and MAT 161A (College Algebra) MAT 162 and MAT 162A (College Trigonometry) MAT 167 and MAT 167A (Discrete Mathematics) MAT 210 and MAT 210A (Logic) MAT 263 and MAT 263A (Brief Calculus)

Revised 4/07/2011

Substitution for Future Ready Core Mathematics Requirements:
In the rare instance a principal exempts a student from the Future-Ready Core mathematics sequence, except as limited by N.C.G.S. §115C-81(b)[1], the student will be required to pass [Algebra I and Geometry] OR [Algebra I and Algebra II] OR [Integrated Mathematics I and Integrated Mathematics II] plus [Applied Mathematics I and II] OR [2 application-based mathematics courses as determined by the LEA].

4 years of mathematics—Substitution by Principal

<table>
<tr><th colspan="5">Core Mathematics Courses</th></tr>
<tr><td>Algebra I (2023)
Geometry (2030)</td><td>OR</td><td>Algebra I (2023)
Algebra II (2024)</td><td>OR</td><td>Integrated Mathematics I (2051)
Integrated Mathematics II (2052)</td></tr>
<tr><td colspan="5"></td></tr>
<tr><th colspan="5">Plus two application based mathematics courses</th></tr>
<tr><td colspan="5"></td></tr>
<tr><td colspan="2">Two application based mathematics courses or any approved mathematics electives[2] as determined by LEA</td><td></td><td colspan="2">Pairs of CTE[4] courses that may substitute as application based mathematics courses</td></tr>
<tr><td colspan="2">Introductory Mathematics (2020)
Foundations of Algebra (2018)
Foundations of Geometry (2029)
Foundations of Advanced Algebra (2019)
Applied Mathematics I (2026)
Applied Mathematics II (2027)</td><td>OR</td><td colspan="2">• Accounting I (6311) and II (6312)
• Drafting I (7921) and II (7972 or 7962)
•Biotechnology and Agriscience Research I (6871) and II (6872)
•Computer Programming I (6421) and II (6422)
• Principles of Business and Finance (6200/6600) and Small Business Entrepreneurship (6235/6615)
• Personal Finance (7086) and Small Business Entrepreneurship (6235/6615)
• Apparel Development I (7035) and II (7036)
• Housing and Interiors I (7055) and II (7056)
•Principles of Technology I (8011) and II (8012)
•PLTW Intro to Engineering Design (8020) and PLTW Principles of Engineering (8021)
• Construction Technology I (7721) and II (7722)
• Electrical Trades I (7741) and II (7742)
• Electronics I (7631) and II (7632)
• Metals Manufacturing I (7641) and II (7642)
•Foods I (7045) and Food II – Advanced (7046)
•Culinary Arts (7121) and II (7122)</td></tr>
</table>

[1] *Note about students affected by N.C.G.S. §115C-81(b)—*
4 units of mathematics—possible sequence of courses

- *Fundamental Mathematics I (2008)*
- *Fundamental Mathematics II (2009)*
- *Foundations of Algebra (2018)*
- *Introductory Mathematics (2020)*

[2] *Approved mathematics electives are listed in the previous table.*

[3] *Goals and Objectives for Applied Mathematics I and II may be found at*
http://community.learnnc.org/dpi/math/archives/2007/10/graduation_requ.php
(Scroll down to Applied Mathematics Courses)

[4] *Notes about CTE courses used to meet mathematics requirements—*
1. If the student uses CTE courses to meet mathematics requirements, then the courses also must be counted for credit in meeting the completion of a career cluster credit.
2.It is important for a student to take both levels in a course sequence for their career development. It would be inappropriate to take two Level I CTE courses for the two alternative math credits instead of Levels I and II in a course sequence. This sequenced instruction also will reinforce the mathematics learning.
3.The teacher must hold the appropriate CTE license and will not be required to obtain a mathematics license.