North Carolina Mathematics Graduation Requirements
Options Charts for the 2020-21 School Year

According to the State Graduation Requirement Policy, students earn four mathematics credits which shall be either:

a. NC Math 1, 2, and 3 and a fourth mathematics course to be aligned with the student's post high school plans
b. 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), the student will be required to pass: NC Math 1 and Math 2 plus two additional courses identified on the NC DPI Math options chart. Note: Credit shall be awarded for Math I, II, III if taken prior to the 2016-17 school year.

The following charts are provided to identify the courses that are options to fulfill the mathematics graduation requirement and that align with the student's post high school plan.
The charts include options for students who seek:

- 1. Admission into a UNC System Institution
- 2. Admission into a Community College or Technical School
- 3. Enter directly into a Career after High School
- 4. Principal Exemption from the Future Ready Core Graduation Requirements

Guidance is also provided for students who are:

- Identified as Learning Disabled in Math
- Following the Occupational Course of Study

North Carolina Mathematics Graduation Requirements
Options Charts for the 2020-21 School Year

1. Admission into a UNC System Institution

The following courses will fulfill the NC graduation requirements for mathematics and meet the UNC System Institution Minimum Course Requirements for admission. For admission into universities and colleges outside of the UNC System Institution, please check with that institution's admissions office for requirements and recommendations.

Students must earn credit for:

- **2109 – NC Math 1**
- **2209 – NC Math 2**
- **2309 – NC Math 3**

And 1 credit from the following:

NC SCOS – 4th Level Math Courses

- 2401 – Discrete Mathematics for Computer Science* New name and revised standards
- 2403 – Pre-Calculus* Revised standards
- 2409 – NC Math 4* New option

Advance Placement Courses

- 2A00 – AP Calculus AB
- 2A01 – AP Calculus BC
- 2A03 – AP Statistics

Community College Course

- 2C01 – MAT 143 – Quantitative Literacy
- 2C02 – MAT 152 – Statistical Methods I
- 2C03 – CCP – MAT 171 – Precalculus Algebra
- 2C04 – CCP – MAT 172 – Precalculus Trigonometry
- 2C05 – MAT 263 – Brief Calculus
- 2C06 – CCP – MAT 271 – Calculus I
- 2C07 – MAT 272 – Calculus II
- 2C11 – MAT 252 – Statistics II
- 2C12 – MAT 273 – Calculus III
- 2C13 – MAT 280 – Linear Algebra
- 2C14 – MAT 285 – Differential Equations
- 2C15 – MAT 141 – Mathematical Concepts I
- 2C16 – MAT 142 – Mathematical Concepts II
- 2C20 – MAT 167 – Discrete Math

International Baccalaureate Courses

- 2I028 – IB Mathematical Studies SL
- 2I038 – IB Mathematics SL
- 2I048 – IB Mathematics HL
- 2I058 – IB Further Math HL
- 2I068 – IB Analysis and Approaches SL
- 2I078 – IB Analysis and Approaches HL
- 2I088 – IB Applications & Interpretations SL
- 2I098 – IB Applications & Interpretations HL

Cambridge Courses

- 2V008 – CIE Mathematics AS
- 2V018 – CIE Mathematics A
- 2V028 – CIE Mathematics & Mechanics AS
- 2V038 – CIE Mathematics & Mechanics A
- 2V048 – CIE Mathematics & Probability/Statistics AS
- 2V058 – CIE Mathematics & Probability/Statistics A

The following courses are no longer available for all student starting in 2020-21.

Students who have earned credit in the following courses prior to the 2020-21 school year, can still use those credits to meet NC graduation requirements for mathematics.

- 2400 – Advanced Functions and Modeling (AFM)*
- 2402 – Integrated Math IV*
- 2406 – AMTEM-Mindset

**Students who earned credit for 2400 AFM or 2402 Integrated Math IV can still use the course to meet meet the Minimum Course Requirements for admission at UNC System Institutions.*

2. Admission into a Community College or Technical School

The following courses will fulfill the NC graduation requirements for mathematics. The North Carolina Community College System does not require any specific 4th math course for admission. Students may also earn a credit in a course listed on the Admission into a UNC Institution Chart.

Students must earn credit for:

- **2109 – NC Math 1**
- **2209 – NC Math 2**
- **2309 – NC Math 3**

And 1 credit from the following:

Additional Mathematics Courses

- 2090 – Foundations of NC Math 1
- 2091 – Foundations of NC Math 2
- 2092 – Foundations of NC Math 3
- 2013 – CCRG Mathematics* New option

Advanced Placement and International Baccalaureate Courses

- 2A02 – AP Computer Science
- 21008 – IB Computer Science SL
- 21018 – IB Computer Science HL

CTE Paired Courses that fulfill 1 of the 4 required mathematics credits for graduation

- IC11 – Masonry I **AND** IC12 – Masonry II
- IM21 – Woodworking I **AND** IM22 – Woodworking II[R] *New Paired Option*
- TS31 – Game Art and Design **AND** TS32 – Advanced Game Art and Design
- IC 41 – Electrical Trades I **AND** IC42 – Electrical Trades II
- IC22 – Carpentry II **AND** IC23 – Carpentry III

CTE Single Courses that fulfill 1 of the 4 required mathematics credits for graduation

- 0A02 – AP Computer Science Principles
- BA10 – Accounting I
- BA20 – Accounting II
- BM20 – Microsoft Excel[R] *New Option*
- IV22 – Drafting II Engineering
- IC21 – Carpentry I
- IC61 – Drafting I
- IC62 – Drafting II Architectural
- TP11 – PLTW Introduction to Engineering Design
- TP12 – PLTW Principles of Engineering
- TP21 – PLTW Digital Electronics
- TP22 – PLTW Computer Integrated Manufacturing
- TP23 – PLTW Civil Engineering and Architecture
- TP25 – PLTW Aerospace Engineering
- TP27 – PLTW Environmental Sustainability
- TP31 – PLTW Engineering Design and Development
- FA31 – Apparel & Textile Production I
- FA32 – Apparel & Textile Production II
- FI51 – Interior Design I
- FI52 – Interior Design II
- IM41 – Metals Manufacturing Technology I
- IM42 – Metals Manufacturing Technology II

[R] – While this course is new to the options chart, students who earned credit in these courses previous to the 2020-21 school year can use this credit to meet the Mathematics Graduation Requirements.

Only students who entered high school prior to the 2020-21 school year can earn a math credit for the following courses:

- BF10 – Principles of Business and Finance
- BP10 – Computer Programming I
- BP12 – Computer Programming II
- FH22 – Culinary Arts and Hospitality II
- FH72 – ProStart II

Only students who entered high school prior to the 2020-21 school year can earn a math credit for the following paired courses:

- BP20 – SAS I **and** BP22 – SAS II
- BF05 – Personal Finance **and** ME11 – Entrepreneurship I
- FH20 – Introduction to Culinary Arts & Hospitality **AND** FH21 – Culinary Arts & Hospitality I
- FH20 – Introduction to Culinary Arts & Hospitality **AND** FH71 – ProStart I
- IM31 – Electronics I **and** IM32 – Electronics II
- TS21 – Scientific & Technical Visualization I **and** TS22 – Scientific & Technical Visualization II

The following courses will no longer earn a fourth math credit for all student starting in 2020-21.
Students who have earned credit in the following courses prior to the 2020-21 school year, can still use those credits to meet NC graduation requirements for mathematics.

- TE21 – Principles of Technology I
- TE22 – Principles of Technology II

3. Enter directly into a Career after High School

The following courses will fulfill the NC graduation requirements for mathematics. Students may also earn a credit in a course listed on the Admission into a UNC Institution Chart.

Students must earn credit for:

- **2109 – NC Math 1**
- **2209 – NC Math 2**
- **2309 – NC Math 3**

And 1 credit from the following:

Additional Mathematics Courses

- 2090 – Foundations of NC Math 1
- 2091 – Foundations of NC Math 2
- 2092 – Foundations of NC Math 3
- 2013 – CCRG Mathematics* New option

Advanced Placement and International Baccalaureate Courses

- 2A02 – AP Computer Science
- 21008 – IB Computer Science SL
- 21018 – IB Computer Science HL

CTE Paired Courses that fulfill 1 of the 4 required mathematics credits for graduation

- IC11 – Masonry I **AND** IC12 – Masonry II
- IM21 – Woodworking I **AND** IM22 – Woodworking II[R] *New Paired Option*
- TS31 – Game Art and Design **AND** TS32 – Advanced Game Art and Design
- IC 41 – Electrical Trades I **AND** IC42 – Electrical Trades II
- IC22 – Carpentry II **AND** IC23 – Carpentry III

CTE Single Courses that fulfill 1 of the 4 required mathematics credits for graduation

- 0A02 – AP Computer Science Principles
- BA10 – Accounting I
- BA20 – Accounting II
- BM20 – Microsoft Excel[R] *New Option*
- IV22 – Drafting II Engineering
- IC21 – Carpentry I
- IC61 – Drafting I
- IC62 – Drafting II Architectural
- TP11 – PLTW Introduction to Engineering Design
- TP12 – PLTW Principles of Engineering
- TP21 – PLTW Digital Electronics
- TP22 – PLTW Computer Integrated Manufacturing
- TP23 – PLTW Civil Engineering and Architecture
- TP25 – PLTW Aerospace Engineering
- TP27 – PLTW Environmental Sustainability
- TP31 – PLTW Engineering Design and Development
- FA31 – Apparel & Textile Production I
- FA32 – Apparel & Textile Production II
- FI51 – Interior Design I
- FI52 – Interior Design II
- IM41 – Metals Manufacturing Technology I
- IM42 – Metals Manufacturing Technology II

[R] – While this course is new to the options chart, students who earned credit in these courses previous to the 2020-21 school year can use this credit to meet the Mathematics Graduation Requirements.

Only students who entered high school prior to the 2020-21 school year can earn a math credit for the following courses:

- BF10 – Principles of Business and Finance
- BP10 – Computer Programming I
- BP12 – Computer Programming II
- FH22 – Culinary Arts and Hospitality II
- FH72 – ProStart II

Only students who entered high school prior to the 2020-21 school year can earn a math credit for the following paired courses:

- BP20 – SAS I **and** BP22 – SAS II
- BF05 – Personal Finance **and** ME11 – Entrepreneurship I
- FH20 – Introduction to Culinary Arts & Hospitality **AND** FH21 – Culinary Arts & Hospitality I
- FH20 – Introduction to Culinary Arts & Hospitality **AND** FH71 – ProStart I
- IM31 – Electronics I **and** IM32 – Electronics II
- TS21 – Scientific & Technical Visualization I **and** TS22 – Scientific & Technical Visualization II

The following courses will no longer earn a fourth math credit for all student starting in 2020-21. Students who have earned credit in the following courses prior to the 2020-21 school year, can still use those credits to meet NC graduation requirements for mathematics.

- TE21 – Principles of Technology I
- TE22 – Principles of Technology II

4. Principal Exemption from the Future Ready Core Graduation Requirements

The following courses will fulfill the NC graduation requirements for mathematics with a principal override. Students may also earn a credit in a course listed on the Admission into a UNC Institution Chart.

Students must earn credit for:
- **2109 – NC Math 1**
- **2209 – NC Math 2**

And 2 credits from the following:

Additional Mathematics Courses
- 2020 – Introductory Mathematics
- 2040 – Alternate Mathematics I
- 2041 – Alternate Mathematics II
- 2090 – Foundations of NC Math 1
- 2091 – Foundations of NC Math 2
- 2092 – Foundations of NC Math 3
- 2013 – CCRG Mathematics* New option

Advanced Placement and International Baccalaureate Courses
- 2A02 – AP Computer Science
- 21008 – IB Computer Science SL
- 21018 – IB Computer Science HL

CTE Paired Courses that fulfill 1 of the 4 required mathematics credits for graduation
- IC11 – Masonry I **AND** IC12 – Masonry II
- IM21 – Woodworking I **AND** IM22 – Woodworking II[R] *New Paired Option*
- TS31 – Game Art and Design **AND** TS32 – Advanced Game Art and Design
- IC 41 – Electrical Trades I **AND** IC42 – Electrical Trades II
- IC22 – Carpentry II **AND** IC23 – Carpentry III

CTE Single Courses that fulfill 1 of the 4 required mathematics credits for graduation
- 0A02 – AP Computer Science Principles
- BA10 – Accounting I
- BA20 – Accounting II
- BM20 – Microsoft Excel[R] *New Option*
- IV22 – Drafting II Engineering
- IC21 – Carpentry I
- IC61 – Drafting I
- IC62 – Drafting II Architectural
- TP11 – PLTW Introduction to Engineering Design
- TP12 – PLTW Principles of Engineering
- TP21 – PLTW Digital Electronics
- TP22 – PLTW Computer Integrated Manufacturing
- TP23 – PLTW Civil Engineering and Architecture
- TP25 – PLTW Aerospace Engineering
- TP27 – PLTW Environmental Sustainability
- TP31 – PLTW Engineering Design and Development
- FA31 – Apparel & Textile Production I
- FA32 – Apparel & Textile Production II
- FI51 – Interior Design I
- FI52 – Interior Design II
- IM41 – Metals Manufacturing Technology I
- IM42 – Metals Manufacturing Technology II

[R] – While this course is new to the options chart, students who earned credit in these courses previous to the 2020-21 school year can use this credit to meet the Mathematics Graduation Requirements.

Only students who entered high school prior to the 2020-21 school year can earn a math credit for the following courses:
- BF10 – Principles of Business and Finance
- BP10 – Computer Programming I
- BP12 – Computer Programming II
- FH22 – Culinary Arts and Hospitality II
- FH72 – ProStart II

Only students who entered high school prior to the 2020-21 school year can earn a math credit for the following paired courses:
- BP20 – SAS I **and** BP22 – SAS II
- BF05 – Personal Finance **and** ME11 – Entrepreneurship I
- FH20 – Introduction to Culinary Arts & Hospitality **AND** FH21 – Culinary Arts & Hospitality I
- FH20 – Introduction to Culinary Arts & Hospitality **AND** FH71 – ProStart I
- IM31 – Electronics I **and** IM32 – Electronics II
- TS21 – Scientific & Technical Visualization I **and** TS22 – Scientific & Technical Visualization II

The following courses will no longer earn a fourth math credit for all student starting in 2020-21.
Students who have earned credit in the following courses prior to the 2020-21 school year, can still use those credits to meet NC graduation requirements for mathematics.
- TE21 – Principles of Technology I
- TE22 – Principles of Technology II

Students identified as Learning Disabled in Math

General Statue 115C-12(9d) states:
"The State Board shall not adopt or enforce any rules that requires Algebra I* as a graduation standard or as a requirement for a high school diploma for any student whose individualized education program (i) identifies the student as learning disabled in the area of mathematics and (ii) states that this learning disability will prevent the student from mastering Algebra I." As noted in General Statute 115C-12(9d), the individualized education program (IEP) must state that the specific learning disability (SLD) in the area of mathematics will prevent the student from mastering Algebra I (now interpreted as NC Math 1 per memo dated 12/16/13).

The IEP team decision regarding the application of this statute through documentation in the IEP could occur at different times during the academic career of a student with a SLD in the area of mathematics. For further information on the required considerations for application of this statute, please see the August 24, 2016 memo and worksheet (http://bit.ly/NCSLDMathFRC).

Note: The memo and worksheet refer to General Statute 115-81b. Recent legislation relocated the content of 115-81b to 115-12(9d) without changing the text of the statute. Please continue to use the memo and worksheet as intended for students with a specific learning disability in the area of mathematics.

Students included in the category defined by NC General Statute 115C-12(9d) must complete four credits in mathematics. These students must construct a four-course mathematics sequence using any combination of the courses listed in the preceding Options Charts. Each student's course selection should be guided by his or her post-secondary goals, as defined in his/her IEP.
For complete information on application of General Statue 115C-12(9d), refer to the Students with Specific Learning Disabilities and Mathematics Sequence Exemption in the Future-Ready Course of Study memo referenced above.

*Algebra I is now interpreted as NC Math I.

Students following the Occupational Course of Study

Students who follow this sequence should be classified as Occupational Course of Study.

Students must earn credit for:

- 9220B – Introduction to Mathematics
- 9225B – Math 1
- 9222B – Financial Management*

*BF05 Personal Finance is no longer an option for all students starting in the 2020-21 school year.