NICOLET UNION HIGH SCHOOL DISTRICT

ACCELERATING ACHIEVEMENT - EVERY STUDENT, EVERY CLASSROOM, EVERY DAY

# Mathematics Curriculum

*Moving from Traditional AGA to an Integrated Approach*

## Frequently Asked Questions (FAQs)

## Math Vision

The Nicolet High School math department's instructional vision is to **empower ALL students** with a strong understanding of mathematical concepts and **problem-solving skills**, which enables them to confidently apply their knowledge in **real-world situations**. As teachers of mathematics we strive to create a **collaborative, engaging and equitable** learning environment that fosters **critical thinking, creativity, and curiosity**, and helps students utilize a growth mindset. Through a variety of **interactive and engaging** teaching methods and **personalized support**, we endeavor to challenge and **motivate** students to reach their mathematical potential and **prepare them for success** in their future academic and career pursuits.

## General Information

***Why is the curriculum being reorganized?***

Integrated math refers to the organization of the mathematics students learn. Instead of having separate courses for algebra and geometry, an integrated program presents mathematical topics sequenced in a way that helps students see the connections between ideas and the coherence of mathematics as a discipline. Teaching algebra and geometry as separate courses can leave students with the false impression that they are not related. An integrated curriculum provides opportunities to investigate and make connections to additional topics beyond just algebra and geometry such as functions, statistics, probability, trigonometry, and data analysis. In addition, the ACT and other standardized tests assess all the additional topics mentioned above so the reorganization of the courses will support readiness for these high stakes tests.

***What standards are being used?***

The Wisconsin State Mathematics Standards will continue to be used. These have been the standards in the state since adopted in 2011. Many of the standards currently addressed in Algebra, Geometry, and Algebra II will remain the areas of focus, but will be addressed in a more complex and integrated manner instead of as isolated topics and skills.

***What is the timeline for implementation?***

New courses will be implemented in a rollout model, grandfathering students who are currently in the traditional Algebra 1, Geometry, Algebra 2 pathway.

| 2023-2024 | 2024-2025 | 2025-2026 | 2026-2027 |
|---|---|---|---|
| Algebra | Integrated I | Integrated I | Integrated I |
| Geometry/H | Geometry/H | Integrated II | Integrated II |
| Algebra II/H | Algebra II/H | Algebra II/H | Integrated III |

***How do these changes align with Nicolet's Portrait of a Learner?***
Mathematical thinking and problem solving is more complex and integrated in industry and personal life today. Reorganizing mathematics away from isolated topics allows students to engage in more complex problem situations that will allow them to connect and understand how their math skills can be applied to authentic experiences. This approach maintains a student's ability to academically compete, while also developing the other competencies in the NHS Portrait of a Learner necessary for future success.

- Creative and Critical Thinker
- Collaborator
- Communicator
- Continuous Learner
- Self-Directed and Resilient Individual

## Math Recommendations & Sequence

***What course will a student take next year?***
Students in grades 9-12 will be recommended for a course by their current math teacher. This recommendation is based on multiple assessment criteria, student interest and motivation, and a student's post-secondary plans. **Here** is a general framework for math courses and sequence for current Nicolet Students.

***What are fourth year math options for integrated math?***
There are numerous options for a fourth year in math including courses in pre-calculus, calculus, statistics, advanced placement, or dual enrollment options with partner colleges and universities. The best option for a student is highly dependent on an individual student's plans after high school. Students and families should communicate with school counselors and math teachers to receive guidance on the best option. There is a general framework for the integrated math course and sequence that can be found **here.**

***What about acceleration?***
Students are usually accelerated in middle school. Nicolet will continue to articulate Math I with our Partner schools to allow for acceleration. Students that are accelerated more than one year will continue to be able to take math courses at Nicolet while in middle school. An Integrated approach to math supports differentiation within the curriculum.

***Can acceleration or deceleration happen outside of the math course and sequence framework?***
Acceleration and deceleration is analyzed on an individual student basis. Students are recommended into math courses based on a variety of data sources and criteria. Registration in courses different from the recommendation is not common practice and will be reviewed by a team of staff members including math, counseling, and administrative personnel.

***Why are there not any honors courses for math II and Math III?***
An integrated approach to math instruction provides rigor and challenge for all students including students who are advanced and proficient mathematical students. In previous high school curricular models only certain students were provided with an accelerated mathematics curriculum. With an integrated approach all students are provided an accelerated curriculum including standards that were not previously addressed in the traditional approach. Finally, traditional acceleration occurs in the upper elementary and middle schools, not at the high school level. In this way many students are prevented from accelerating. With an integrated approach all students are accelerated.

# College Admissions

***How does this curriculum reorganization impact college admissions?***

Colleges and universities receive transcripts from around the world and see a variety of courses. Courses offered in an integrated manner like Math I, II, and III are equivalent to Algebra, Geometry, and Algebra II. For example, UW-Madison Admissions Office states their math requirement as “at least one year each of algebra, geometry, and advanced math, or an integrated sequence of courses.” As always, the overall rigor of coursework and performance in those courses is an important factor in college admissions. The NCAA recognizes the courses of Math I, II, III as an acceptable progression. A student will need to take either the Math I, II, III pathway to earn full credit for NCAA. As always, students needing to ensure coursework is NCAA approved should work with their school counselor to develop the most appropriate academic plan.

***Is Advanced Placement Statistics considered a math credit for college admissions?***

Nicolet high school awards students a math credit for passing AP Statistics. However, each university views statistics courses differently. Most UW-Schools will award math credit to students who pass the AP Statistics exam. UW-Madison, UW-LaCrosse and UW-Stout award statistics credit to students who pass the AP Statistics exam, which meets one of the general education category requirements.

From UW-Madison’s Admissions Office regarding AP Statistics: “Students earn 3 credits in statistics electives. Stats electives can end up satisfying the Quantitative Reasoning (QR) A requirement or Quantitative Reasoning Part B requirement, though placement tests and other AP classes can also fulfill these requirements.“ **UW-Madison**’s requirement is at least one year each of algebra, geometry, and advanced math, ***or an integrated sequence*** of courses. Courses taken in middle school meeting this requirement are taken into account. Four years in math is not required, but is recommended. A course like AP Statistics does not count as a math credit, but is viewed as a rigorous course and would be a suitable fourth year option.

