

Naperville North High School

AP Pre-Calculus AB



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Mission

To educate students to be self-directed learners, collaborative workers, complex thinkers, quality producers, and community contributors

Course Description

This course is designed for students planning to study college level calculus. The material presented will be more rigorous than in previous mathematics courses with an emphasis placed on problem solving, connecting graphical, numeric, and algebraic representations, and follow the curriculum set forth by the AP Board.

Throughout the course, the content will be presented in the framework of three mathematical practices:

- ***Procedural and Symbolic Fluency:*** Algebraically manipulate functions, equations, and expressions.
- ***Multiple Representations:*** Translate mathematical information between representations.
- ***Communication and Reasoning:*** Communicate with precise language and provide rationale for conclusions.

Students desiring college placement/credit will be encouraged to take the Advanced Placement Exam. A graphing calculator is required.

Course Skills:

Students will work towards mastery in the 8 distinct skills identified by AP Board throughout the course units of Polynomial and Rational Functions (Unit 1), Exponential and Logarithmic Functions (Unit 2), and Trigonometric and Polar Functions (Unit 3). The 8 skills are listed below.

- 1.A Solve equations and inequalities represented analytically, with and without technology.
- 1.B Express functions, equations, or expressions in analytically equivalent forms that are useful in a given mathematical or applied context.
- 1.C Construct new functions, using transformations, compositions, inverses, or regressions, that may be useful in modeling contexts, criteria, or data, with and without technology.
- 2.A Identify information from graphical, numerical, analytical, and verbal representations to answer a question or construct a model, with and without technology.
- 2.B Construct equivalent graphical, numerical, analytical, and verbal representations of functions that are useful in a given mathematical or applied context, with and without technology.
- 3.A Describe the characteristics of a function with varying levels of precision, depending on the function representation and available mathematical tools.
- 3.B Apply numerical results in a given mathematical or applied context.
- 3.C Support conclusions or choices with a logical rationale or appropriate data.

Several additional topics may also be studied in this course that will not be assessed on the AP Exam. These topics may include (but are not limited to) matrices, vectors, conic sections, and parametric equations.

Grading Practices

Grades communicate each student's progress toward mastery of goals/standards for the course.

- No extra credit will be issued.
- In Infinite Campus, a score of "Missing" (M) will indicate an assessment has not been turned in and the comments section will include a specific date by which students can still submit. After that date, a zero (0) will be recorded.
- Grade book categories will include Practice and Assessments/Evidence
 - Practice work includes homework or classwork - it must be submitted on the original due date and WILL NOT be accepted for credit after the due date
 - Assessments/Evidence includes tests and quizzes - if a legitimate attempt is made on an assessment, a score of 50% will be the lowest possible grade.
- Violations of the academic integrity policy will be consequence by the administration in collaboration with the department chair/teacher.

Grading Disbursement

A= 100-90%

B= 89-80%

C= 79-70%

D= 69-60%

F= 59-0%

Semester Grade:

- Coursework = 85% (Assessments/Evidence = 90%, Practice = 10%)
- Final Exam = 15%

Reassessments:

The purpose of reassessment is to allow students to demonstrate mastery of course standards in which they remain deficient. Higher reassessment grades will replace the original assessment score, but will not exceed 85%.

- Practice work is not eligible for reassessment.
- Evidence of Learning work may be eligible for reassessment. Refer to the chart below for eligibility:

<input type="checkbox"/> The assessment included multiple opportunities for feedback and improvement in the process for the final product OR formative assessments are aligned to standards, allow students to practice in the same assessment format, and gain feedback for improvement before the summative assessment.	<input type="checkbox"/> There was timely and consistent completion of practice work and formative assessments. <input type="checkbox"/> A one-time performance on an assessment does not reflect the student's level of proficiency leading up to the assessment. <input type="checkbox"/> Summative assessment score is below 85%.
Not eligible for reassessment	Eligible for reassessment if all three statements above are true.

Reassessment Parameters:

- The reassessment opportunity will require designated learning experiences that demonstrate readiness as assigned by the teacher.

- Reassessments MUST be completed within 5 school days of the student receiving feedback unless otherwise determined by the instructor. The reassessment deadline should be communicated in an IC comment.
- The final reassessment score will be capped at 85%

Academic Integrity Code:

District 203 students are challenged to address the academic process enthusiastically, diligently, and most importantly, honestly. It is the responsibility of our students, teachers, and administration to uphold the fundamental academic values of honesty, responsibility, fairness, respect and trust. The integrity of our district's academic programs is built upon these principles.

Academic integrity violations include cheating, plagiarism, self-plagiarism or copy infringement, obtaining or providing an unfair advantage, using a writing service and/or AI in place of original work unless specifically authorized by staff, falsification of documents, unauthorized access to records, and inappropriate collaboration, whether intentional or unintentional. The classroom teacher and administration will collaborate and exercise professional judgment in determining academic integrity violations.

D203 AI Belief Statement:

At Naperville North High School, we strive to build a learner's mindset in all students, developing qualities such as adaptability, communication, critical thinking, and global citizenship. Generative Artificial Intelligence (AI), offers new opportunities to engage with important technology relevant to the future that also raises significant educational considerations. AI tools provide unique ways to engage students in the learning process, hence we encourage our staff to guide students in using AI responsibly. Teachers have the authority to establish guidelines for AI use in their classrooms, setting clear expectations for how AI can be used on learning tasks. Concurrently, we recognize that reliance on AI risks replacing genuine student engagement and original thought, undermining the attributes we aim to cultivate. Striking a balance between leveraging AI tools effectively and maintaining educational standards is crucial to the learning experience of each student.

Additional Resources for Support

- Make an appointment with your teacher
- Drop in for Peer Tutor math help during lunch periods through the Literacy Center.
- After-School Tutoring (check with Student Services for schedule and location)
- Online Resources:
 - o Digibook Algebra 2: <https://naperville203algebra2.weebly.com/>
 - o Digibook Geometry: <https://naperville203geometry.weebly.com/>
 - o Digibook Algebra 1: <https://naperville203algebra1.weebly.com/>
 - o Canvas (notes, practice): <https://naperville.instructure.com>
 - o Khan Academy, Precalculus: <https://www.khanacademy.org/math/prec calculus>

Parents & Guardians/Communication

Naperville North believes in a collective partnership with parents/guardians which provides students the best opportunities for success.

Some ways parents/guardians can support their student's learning are:

- Encourage your student to speak directly with their teacher about questions or concerns.
- Actively check Infinite Campus for their student's grade.
 - Infinite Campus is a tool to monitor student progress until final course grade is posted.
 - Monthly progress grades are posted and represent the current grade of a student in the course at that moment in time.
- Discuss missing assignments, reiterate due dates, help organize folders, materials, assignment notebooks and review upcoming projects and assessments.
- Teachers make every effort to respond to parent emails and phone calls within 48 hours during the work week.
- The best way to communicate with teachers is through email; however, if you haven't received a response within 48 hours, please resend the email or call their voicemail. Your email may have been filtered.