

AP Precalculus Syllabus

2024 – 2025

Teacher Info

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Room 207
Plan Period: 1st (8:40 – 9:31)

Course Description

From College Board AP Precalculus Course and Exam Description:

AP Precalculus fosters the development of a deep conceptual understanding of functions. Students learn that a function is a mathematical relation that maps a set of input values – the domain – to a set of output values – the range – such that each input value is uniquely mapped to an output value. Students understand functions and their graphs as embodying dynamic covariation of quantities, a key idea in preparing for calculus. With each function type, students develop and validate function models based on the characteristics of a bivariate data set, characteristics of covarying quantities and their relative rates of change, or a set of characteristics such as zeros, asymptotes, and extrema. These models are used to interpolate, extrapolate, and interpret information with different degrees of accuracy for a given context or data set. Additionally, students also learn that every model is subject to assumptions and limitations related to the context. As a result of examining functions from many perspectives, students develop a conceptual understanding not only specific function types but also of functions in general. This type of understanding helps students to engage with both familiar and novel contexts.

AP Exam Information

In May, students can take the Advanced Placement AP Precalculus Exam prepared and administered by the College Board for a cost of \$98 (the district will be paying for all AP Exams). Students who pass this exam may be eligible to receive college credits depending on their score and choice of higher learning institution. The test is scored on a scale of 5, with 5 being the highest grade earned.

Dual Credit Information

We also offer AP Precalculus in conjunction with college credit for Precalculus through Lincoln University.

Entrance Requirements/Information for Lincoln University (MAT 121, 5 credit hours)

1. Students must have at least a 3.00 GPA
2. Students must have a math ACT subscore of 22+ or pass the LU Math Placement Test (Score: 31+ *Note:* The placement test is free but students can only take it once.)
3. Cost: \$75.00 per credit hour (\$375)
***While \$375 may seem like a lot, this is a significantly discounted rate for normal college credits. Per Lincoln's website, their typical charge is \$224 per credit hour, which would make the 5 credits for calculus total to \$1,120. This would be seen across all colleges.

AP Exam vs Dual Credit

Both the AP Exam and Dual credit provide the opportunity for students to earn college credit at a reduced cost, and they both have their advantages. To earn dual credit, students must pass the course, but to earn AP credit, students must pass the AP exam. However, we cannot guarantee that Lincoln courses directly transfer to other colleges, whereas AP credit is more widely accepted, particularly out of state. Overall, it is best to contact colleges directly and ask for their policy on transfer and AP Credit. If you are struggling to decide which route to take of earning college credit, please let me know, so that I can help you.

Important Note

Even though students may select dual credit over taking the AP exam, this course is still AP Precalculus; therefore, the course will still follow AP Precalculus content levels and practices, which is considered more rigorous than a standard Precalculus college course. Students will be actively involved in creating their own knowledge. Tests will not be carbon copies of the notes, assignments, reviews, rather students will be required to apply the information they have learned in a new context on the tests. Throughout the year, students will develop skills that will be valuable their entire lives: self-discipline, self-confidence, rigorous habits of mind, problem solving skills, and a love of learning. At the end of the course, students will be well-prepared for college-level mathematics, and will be able to think and learn for themselves.

Unit Outline

Unit 1 – Algebra Basics
Unit 2 – Function Properties
Unit 3 – Rational and Polynomial Functions
Unit 4 – Exponential Functions
Unit 5 – Logarithmic Functions
Unit 6 – Unit Circle Trigonometry
Unit 7 – Trigonometric Functions
Unit 8 – Trigonometric Equations and Inequalities
Unit 9 – Polar Plane and Functions

Textbook

Precalculus 10th Edition by Ron Larson

Course Materials

Students should bring the following materials to class daily:

- 1.5-2 inch binder
- Pencil and Eraser
- Colored Grading Utensil, preferably red
- Graphing Calculator (Ti 83/84 family)

Grading

- Homework – 10%
- Quizzes – 15%
- Unit Tests - 65%
- Final Exam – 10%

District Grading Scale

Letter Grade	Percentage	Letter Grade	Percentage
A	93-100	C	73-76
A-	90-92	C-	70-72
B+	87-89	D+	67-69
B	83-86	D	63-66
B-	80-82	D-	60-62
C+	77-79	F	59 & Below

Course Policies

All Jefferson City School District, Capital City High School, and Lincoln University policies are enforced.

Attendance

- If a student has an absence, he/she is expected to get all materials, notes, and assignments he/she missed. **It is ideal, if known in advance, for students to pick up work or take assessments before absences.** This goes for sports, clubs, college visits, vacations, etc.
- If a student has an excused absence on a quiz/test day, he/she is expected to take the quiz/test as soon as they return.
- **It is expected that students communicate their plan on making up work/assessments ahead of time with the teacher.**
- Extenuating circumstances can allow for more time if the student has communicated with the teacher.

Phone Policy

PHONES ARE NOT ALLOWED. If students bring cell phones to school, they will need to be stored in their backpacks. Cell phone usage is only permitted during passing times and lunch periods. Per CCHS cell phone policy, students who use a cell phone during class will be sent to the office, leave their phone in the office for the remainder of the day, and a referral will be written. Headphones/earbuds are not to be worn during class unless the teacher has approved their usage.

Homework

Homework will be assigned daily and should take approximately 30 minutes to complete. If a student is struggling with content and taking longer on homework, it is their responsibility to reach out for help. Homework will be checked the day following being assigned for completion credit. A key for the assignment will be provided, and it is the student's responsibility to check for accuracy. If a student does poorly on an assignment, they should seek help before or after school.

Late Work

Late work is not accepted; however, students will be given a missing assignment pass for five assignments.

Tests/Quizzes

There are no test or quiz retakes offered. General quiz questions will be covered in class, but quiz corrections in the entirety of the quiz will not be done in-class. If students would like to fully go over a quiz, they will need to come in before or after school.

The lowest quiz score from each term will be dropped automatically by Infinite Campus.

Academic Integrity

All acts of dishonesty in any work constitute academic misconduct. This includes, but is not limited to, cheating, plagiarism, fabrication of information, and abetting (helping) any of the above. Academic misconduct represents unethical behavior unbecoming to college students. To help prevent cheating, students will turn in cell phones when taking quizzes or tests.

Title IX

Lincoln University prohibits discrimination on the basis of sex, including sexual harassment, in education programs or activities. Title IX protects individuals from harassment connect to any of the academic, educational, extracurricular, athletic and other programs, activities or employment of schools, regardless of the location. Title IX protects all individuals from sexual harassment by any school employee, student, and non-employee third party. This policy applies equally to all students and employees regardless of the sex, gender, sexual orientation, gender identity, or gender expression of any of the individuals involved. No officer, employee, or agent of the institution participating in any program under this title shall retaliate, intimidate, threaten, coerce, or otherwise discriminate against any individual for exercising his or her rights or responsibilities under any provision of this policy.

Services for Students with Disabilities

Students are hereby notified that Lincoln University does not discriminate on the basis of race, color, national origin, sex, age or disability in admission or access to its programs and activities. Questions that may arise in regard to the University's compliance with Section 504 of the Rehabilitation Act and Americans with Disabilities Act should be directed to the Coordinator for Access and Ability Services, 304 Founders Hall, Lincoln University, Jefferson City, Missouri 65102-0029. For more information, contact the Coordinate of Access and Ability Services at: 304 Founders Hall; 573-681-5162, email: aastudent@lincolnu.edu