A.P. Precalculus
Lithia Springs High School – Academic Year 2023-2024

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School Website: https://lshs.dcssga.org/   School Number: 770-651-6700
My Website: Felicia Macecevic - Lithia Springs High School (dcssga.org)   My Number: 770-651-6848

Course Description

Welcome to AP Precalculus a semester long course! You are about to begin a course unlike any you have taken. AP Precalculus centers on functions modeling dynamic phenomena. This research-based exploration of functions is designed to better prepare students for college-level calculus and provide grounding for other mathematics and science courses. In this course, students study a broad spectrum of function types that are foundational for careers in mathematics, physics, biology, health science, business, social science, and data science. Throughout this course, students develop and hone symbolic manipulation skills, including solving equations and manipulating expressions, for the many function types throughout the course. Students also learn that functions and their compositions, inverses, and transformations are understood through graphical, numerical, analytical, and verbal representations, which reveal different attributes of the functions and are useful for solving problems in mathematical and applied contexts. In turn, the skills learned in this course are widely applicable to situations that involve quantitative reasoning.

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 of specific function types but also of functions in general. This type of understanding helps students to engage with both familiar and novel contexts. A Detailed listing of AP Precalculus Standards can be found at: AP® Precalculus Course and Exam Description https://apcentral.collegeboard.org/courses/ap-precalculus/course

In order to ensure that students are prepared for that exam, review sessions will be provided. Students enrolled in AP Statistics are expected to strive to take the AP Exam and therefore will be expected to attend some offered review sessions. This course requires a STEM Journal.

AP Enrollment at LSHS
Advanced Placement (AP) courses are designed to enable *willing* and *academically prepared* students to pursue college-level credit while still in high school. Each course is designed to offer the same level of instruction as an introductory college course and culminates in a standardized college-level assessment or AP Exam. It is only by taking and passing these exams that a student is *eligible* to receive college credit.

AP Classroom. AP students are required to have an account with the CollegeBoard and must enroll in the appropriate AP Classroom using the Join Code provided by the teacher using their personal email.

AP Exam Requirement. Students electing to take an AP Course at Lithia Springs High School do so with the *intention of earning college credit* by *taking and passing the accompanying AP Exam*. As such, AP Exams are automatically ordered for all students enrolled in an AP Course at LSHS. Students who do not want to take the AP Exam must submit an AP Exam Exemption Request Form.

AP Exam Fees
Paying for exams. The fee to take an AP Exam at LSHS is **$103** and is the responsibility of the student. AP exam fees can be paid using a credit or debit card online at Student Fees | Lithia Springs HS. Payments not submitted by the due date will incur a late fee.

Fee reductions for low-income families. Students from qualifying families may receive *one* **$87** fee voucher and *one or more* **$49** fee vouchers -- regardless of exam subject. Fee reductions cannot be applied to a student's account until he/she submits the ***required*** documentation. The steps for applying for a fee waiver are as follows:
- Complete a Free & Reduced Meal Application online at https://www.schoolcafe.com/.
- Submit a "Request to Share Information" form to the cafeteria manager.
- The deadline to submit the fee reduction documents is ***April 12, 2024***.

Fee reductions for all other families. Students who *are NOT from a qualifying low-income family* **and** who *are taking at least one AP STEM Exam* may be eligible for *one* **$87** fee voucher. The following subjects are considered AP STEM Exams: Biology, Calculus, Chemistry, Computer Science A, Computer Science Principles, Environmental Science, Physics, Pre-Calculus and Statistics.

AP Exam cancellation fee. It is $40 to cancel an exam if an AP Exam Exemption Request form is submitted after the deadline. Students who do not show up to take the exam will not be issued a refund of any monies paid and may be assessed an additional $40.

Penalty for failing to pay for AP exams. Students who do not pay their AP Exam fees will be placed on the LSHS Holds list. Students on the Holds list may be unable to participate in elective school activities such as dances, non-instructional field trips, athletics, and graduation activities. If a student on the Hold list withdraws from LSHS, his/her transcript will be withheld until the account is settled.

Course Policies

- Transfer of Students' Averages and Report Card Four and a Half Week Averages: The teacher will assign each grade in the grade book with the students' transfer average.
- LSHS absence and tardy policy will be enforced. A student is determined to be late if they are not in the classroom before the late bell rings. Detentions will be assigned to tardy students without a pass.
- Students have the opportunity to make up work for absences. Absent must be written/noted when submitting work missed due to an absence so that the absence policy guidelines can be used. Please note initially missing grades are entered as an M which calculates as a zero and this is entered when said assignment is graded. This M can be replaced providing the missing work is submitted in a timely manner.
- Late work will be accepted as follows and graded as time permits. Late work is classified as work that is not turned in on time not due to excused or unexcused absences. Late submissions will receive a maximum grade of 70% and will only be accepted until the end of each 4.5-week grading period.
- Academic Honesty: Study groups on homework assignments outside of class are permitted and encouraged as long as it is used as a learning method. However, cheating, plagiarism, and other forms of poor academic conduct are not tolerated. Summative and Formative Assessments are designed to measure levels of mastery and must be the individual's product. Breaches of this policy will result in consequences including (but not limited to) a grade of zero on the assignment to a discipline referral – based on teacher's discretion. Grades entered in infinite campus reflect what the student was provided.
- Incomplete Grades: Incompletes are awarded to students who did not complete their Final exam upon finishing the course, and/or have major grades missing due to an unexpected absence or illness. For a missing Final exam incompletes will be converted to a numeric grade once the student completes the Final, or if the student is given numerous opportunities to take the test and fails to do so a zero will be awarded for the Final score. For missing exams or major grades, students have ten days to complete the missing items.
- Retesting: Students can retest to improve their grade, if they earned less than a 70. Students who choose to retest will be able to earn up to a 70 for that test. See student evaluations on page 3 for Retest criteria. There is no retest for the Final Exam.
- Grade Appeal: A student/parent has 5 business days from the date report cards are issued to appeal the final grade. The building principal's decision is final.

Any course policy may be altered or waived based on the teacher's/building level administrator's discretion.

Lithia Springs High School "House Rules"
- Always be on time and prepared to learn, this includes logging into our Google Classroom immediately.
- Expect to actively participate, assist as needed in class and take good care of technology items provided.
- Passes will not be issued during the first or last 10 minutes of class (4 emergency passes every 9 weeks).
- Hats, hoods, headbands, etc. and too short clothing are not to be worn in the school building.

- All non-chrome book electronic devices brought into the classroom, including phones, iPods, earbuds, etc., must remain turned off and out of sight or they may be confiscated (2nd offense). Confiscated items will be turned into the front office and a detention will be written.
- Please stay in your class and in your seat until you are dismissed (the bell doesn't dismiss you).
- Thank you for helping with assisting in keeping our high school/classroom clean by picking up around your area and throwing your trash away at the end of the period.

Tardy Policy – Be sure to reference the Student Handbook

Tardies to School

All students are expected to be in school before 8:20 AM. Any student arriving at school after 8:20 AM should report to the attendance clerk where the tardy will be documented as excused or unexcused according to the Board Policy. Students arriving after 8:20 AM that do not properly sign in will receive disciplinary action from the administration such as parent conference, detention, in-school suspension, loss of parking privileges, and/or loss of extracurricular privileges.

Tardies to Class – Also Included in page one of this Syllabus.

Arrival to class after 10 minutes constitutes skipping and/or unauthorized area unless of course he/she is just arriving at school. In this case the student will have an excuse/pass from the attendance office. A tardy to class is within the first 10 minutes of class. Students who are tardy may receive discipline from the administration such as parent conference, detention, in-school suspension, loss of parking privileges, and/or loss of extracurricular privileges.

Tardy Policy

Tardies will be recorded through the Student Conductor system and teacher input through Infinite Campus. Tardies to school and/or to class may include disciplinary action such as parent conference, detention, in-school suspension, loss of parking privileges, and/or loss of extra-curricular privileges. After THREE tardies either to school or to classes you will receive a detention before school at 7:30 a.m. to 8:00 a.m. and afternoons 3:15 to 3:45 p.m. Failure to serve detention leads to escalated consequences. Detention will be assigned for every third tardy. School Behavior Management Plan, etc. – Be sure to reference the Student Handbook for details on this and other school-wide policies.

School Behavior Management Plan, etc. –

Be sure to reference the Student Handbook for details on this and other school-wide policies.

Course Expectations

- Come to class prepared and ready to learn with charged Chromebook, notebook, supplies, notes from previewed videos provided in AP Classroom, etc. and assignments.
- Stay focused and on task – getting out of focus leads to misunderstanding, confusion, and distraction.
- Be ready to actively participate and assist as needed – ask questions, explain thoughts and ideas.
- Assignments are to be completed and submitted in a timely manner.
- Sharpen your study skills. You will need to study/review independently DAILY.
- Access and utilize the available resources in CollegeBoard /AP Central
- Set high goals for yourself and put forth your best effort to attain them.
- Maintain a STEM Journal
- Take advantage of my help and your peers' help. The best chance for success is to get involved in a study group.
- Attendance to class is vital. Each day we will be learning new material/sharpening old material. If absent you are expected to check the website (calendar) and Google Classroom before the next class to see what you missed.

Students who consistently meet and exceed course expectations will be rewarded with homework passes, positive calls home to parents, bonus points on classwork, etc. The decision for the reward is based on teacher's discretion.

Primary Goal: To enable all students to earn credit for this course towards graduation.
Secondary Goal: Preparation for the AP Exam which will be given in May. In order to ensure that students are prepared for that exam, review sessions will be provided in the spring. Students enrolled in AP Statistics are expected to strive to take the AP Exam and therefore will be expected to attend some or all review sessions.
Tertiary Goal: To produce graduates that are motivated, life-long learners, and productive global citizens.

Mathematics Department Grading Policy

Grading Plan

50% - Summative Evaluations: *Common Unit Assessments/ Teacher Generated Assessments, Culminating Projects.*

40% - Formative Evaluations: *Teacher Generated Quizzes, Classwork, Homework Assignments, Labs, STEM Journals, Reflections.*
10% - Final Comprehensive Examination: This is in addition to the AP examination for this course. This course will have a Final Assessment/Exam.

Student Evaluations

1. **Class work/Homework** will be assigned almost daily and might be checked for completeness. Upon instructor's discretion, certain class work/homework assignments may be collected and graded for accuracy. During each 9 week period there should be at least 18 but no more than 36 class work/homework assignments depending on mathematics course level.

2. **Tests/Quizzes/Tasks** will be given at teacher discretion to assess student success and upon completion of unit to determine student readiness for Common assessments. Throughout each Semester, there should be at least 10 but no more than 20 tests/quizzes/tasks depending on mathematics course level.
* **Retesting**: Students can retest to improve their grade, if they earned less than a 70. In order to retest an email must be sent at least two days prior to the requested retest date. Students who choose to retest will be able to earn up to a 70 for that test. After school and in class retest dates will be determined and announced in advance. Students will need to complete one of the following items in order to retest:
- Must attend one help session **OR**
- must complete guided summative assignment (i.e. digital notebook, study guide, etc) **OR**
- must complete test corrections to original summative.

3. **Final Comprehensive Exam**:
Final Exams is a comprehensive exam provided by the Mathematics Department to assess student content knowledge and skill in the course. This exam will be given at the end of the semester to selected mathematics courses. Polynomial and Rational Functions: (30 – 40% of Exam), Exponential and Logarithmic Functions: (27 – 40% of Exam), Trigonometric and Polar Functions: (30 – 35% of Exam)
Please Note that there are no retakes on Final Exams.

Grading Scale

A: 100 – 90
B: 89 – 80
C: 79 – 71
D: 70
F: below 70

Note: Administrators and department heads will keep a syllabus in their files for each teacher that explains in more detail their classroom philosophy, expectations, and protocol.

3.12 Equivalent Representations of Trigonometric Functions
3.13 Trigonometry and Polar Coordinates
3.14 Polar Function Graphs
3.15 Rates of Change in Polar Functions
Unit 4 - Functions Involving Parameters, Vectors, and Matrices (Not on AP Exam)
4.1 Parametric Functions
4.2 Parametric Functions Modeling Planar Motion
4.3 Parametric Functions and Rates of Change
4.4 Parametrically Defined Circles and Lines
4.5 Implicitly Defined Functions
4.6A Conic Sections
4.6B Conic Sections
4.7 Parametrization of Implicitly Defined Functions
4.8 Vectors
4.9 Vector-Valued Functions
4.10 Matrices
4.11 The Inverse and Determinant of a Matrix
4.12 Linear Transformations and Matrices
4.13 Matrices as Functions
4.14 Matrices Modeling Contexts

For a more detailed course schedule please access the appropriate calendar on my website [Felicia Macecevic - Lithia Springs High School (dcssga.org)](#)

Course Material List

Chrome Book/Laptop with Internet access
Graphing Calculator TI-84+ (will be provided for in classroom use)
5 Steps to a 5 for AP Statistics
4 AAA batteries
2 Composition Notebooks
2 Packs of Mini dry erase markers
2 Packs of Mechanical Pencils
3 Ring Binder with at least 4 Dividers

Tutoring

Note all students have access to FREE 24/7 math tutoring using the FEV Tutor icon in Classlinks (our Portal)
- along with in person tutoring on Thursdays after school in A107 3:15pm – 3:45pm.

Course Resources

Carter, Cuevas, Daay, Malloy, Bryan, Holiday, Hovsepian. Glencoe Precalculus, McGraw Hill, 2014.

Projects will be assigned several times in the semester. Students will be expected to describe clearly and completely the methods used, the results of the study, and interpretations of these results.

Graphing calculators are required for all aspects of this course. A Texas Instruments TI- nSpire is required and will be used for all in-class demonstrations. Students who do not own their own calculator will use Desmos online calculator as an at home/online calculator.

My website can be accessed through our school website and consists of information that pertains to the course such as outline of our Calendar, syllabus, etc. Note that Google Classroom will contain announcements, classwork/homework assignments, concept notes, class information, etc.

Note: Google Classroom will be a helpful tool for students who are absent from class. However, it should not be used as a substitute for not attending class. *Please see my website for additional resources/helpful links.*

Syllabus Verification for A.P. Precalculus

Mrs. Macecevic

You may view the syllabus and any other information via the school's website. Go to Lithia Springs High School main website, find my name on the school staff link, and then click on forms.

You may also contact me at any time throughout the semester for a copy of the syllabus if you would like a hard copy. Your child will be provided a paper copy of this syllabus and a digital copy is available on my school website.

Video Permission

Lithia Springs High School will be engaging in a professional learning opportunity with teachers during the 2023-2024 school year that will include videoing in their classroom in an effort to increase research-based teaching practices. Each video will be used for professional learning and only viewed by certified school personnel. By signing below, you understand that during videoing, your child may be included in the video and also understand that the video will not be published.

<u>Parent/Guardian and student please sign and return entire page.</u>

I, _____ (print student name) agree to the standards and rules set forth by the syllabus for this course and comply with the video statement above.

I, _____ (print parent/guardian name) agree to the standards and rules set forth by the syllabus for this course and comply with the video statement above.

_____   _____   _____
Student Signature   Parent/Guardian Signature   Date

Student Email: _____

Parent Email: _____

Parent/Guardian Phone Number: _____ (Cell)

Parent/Guardian Phone Number: _____ (Other)

Initial each statement please.

_____I have read, understand, and accept the LSHS AP enrollment policy.

_____I understand why a student might be removed from an AP course and the impact that removal could have on the student's schedule and required credits.

_____I know what an AP Classroom is and how to join it; I understand that I am required to enroll in my teacher's AP Classroom.

_____I have read, understand, and will adhere to the LSHS AP Exam payment policies and deadlines; I understand my financial responsibility for this course.

_____I know how to access Student Fees | Lithia Springs HS, and how to use it to submit exam payments (including the any applicable deposit(s) that I must submit within the first two weeks of the semester).

_____I understand how to obtain a fee reduction and know that I will not be eligible for one until I submit the AP Exam Fee Reduction Request form.

_____I understand the consequences of not paying my AP Exam fees.