



## SLCA SYLLABUS 2017-18

### PRE-CALCULUS HONORS

**Mission Statement:** Southlake Christian Academy exists for the sake of God's glory and mission, proclaiming the gospel and discipling the whole person in all aspects of God's reality.

**Course Description:** Pre-Calculus, as its name suggests, is designed to prepare students for Calculus, whether in high school or college. Students will apply technology, modeling, and problem-solving skills to the study of polynomial, rational, exponential, logarithmic, and trigonometric functions. A comprehensive study of trigonometry is included in this course. Topics also include polar coordinates, parametric equations, analytical geometry, sequences, series, counting principles, probability, limits, and continuity. A graphing calculator is used for exploration, modeling, computations, and function analysis. Pre-Calculus is a fast paced course in which students should be prepared to be challenged and work hard. Students will develop their problem solving and critical thinking skills throughout the course.

Students in the *Honors* course should be able to solve a broader range of complex problems using their critical thinking skills. They will be tested on more application and conceptual problems.

**Course Content:**

Unit 1: Functions and their Graphs

Unit 2: Polynomial and Rational Functions

Unit 3: Exponential and Logarithmic Functions

Unit 4: Trigonometry

Unit 5: Analytic Trigonometry

Unit 6: Additional Topics in Trigonometry

Unit 7: Sequences, Series, and Probability

Unit 8: Topics in Analytic Geometry (Conic Sections, Polar, and Parametric Equations)

Unit 9: Limits and an Introduction to Calculus

**Required Text:**

- *Precalculus with Limits, 4<sup>th</sup> Edition*. Larson and Battaglia, Cengage Learning, 2018.

**Evaluation:**

- **Tests: Tests account for 80% of the semester grade.**

There will be a test given every 2-3 weeks. Due to the amount of material covered in a chapter, a test may sometimes cover only part of a chapter or multiple chapters. Make-up tests need to be completed as soon as possible. Any student who takes more than a week to make up a test will lose a minimum of 10 points from that test.

- **Quizzes: Quizzes account for 20% of the semester grade.**

Announced and/or pop quizzes will be given at least weekly. If you are absent you must consult me on a method of making up a missed quiz.

- **Assignments: Assignments account for 0% of the semester grade.**

Assignments will be given everyday with few exceptions. Although not a numerically part of the grade, homework directly affects your performance on tests and quizzes. It is imperative that all assignments are completed in a timely manner. This means completed the date which it is assigned. Completed assignments may also count as bonus points toward tests.

- **Notebooks:** All students are expected to keep a neat, orderly notebook. Notebooks may be collected several times throughout the semester. Notebooks should include the following: Calendar, Course syllabus, Daily class notes (this is why we call it a notebook) and warm-ups, Assignments, and Quizzes. Collected notebooks may count as part of the quiz grade.

- **Projects:** A paper or project may be assigned at some time. It may be graded as a test or quiz grade, at teacher discretion.

- **Extra Credit:** No extra credit will be offered per school policy. However, students will be given a bonus question(s) on each test (not to exceed more than 5 pts, and 100% maximum test grade). Bonus points cannot be transferred to past or future tests.

**Test Make-Up Policy:** If a student comes into school late and as a result has missed a test, the student will immediately report to the office to make up that test. All other tests are made up during H block study hall in room 200 on Tuesday, Wednesday, or Thursday. Students may NOT miss a scheduled H block class to make up a test. Late test make up: Ten points will be subtracted from the final test score for each week that a test is late.

#### **Attendance:**

- **Absences:** It is your responsibility to inquire about all make-up assignments and tests as a result of an absence. The rigors of this course require you to miss a minimal number of classes. Do not schedule appointments during this class. A deadline will be given by the teacher and agreed upon by the student. Note: If you are absent for a school activity, you must make arrangements prior to your absence.
- **Tardies:** When you are tardy, it is your responsibility to obtain a pass from the office, otherwise you will not be admitted into class.

#### **Classroom Rules and Expectations:**

- Enter class quietly, prepared, and on time (meaning that you are seated when the tardy bell rings. Prepared for class means you have a sharpened pencil, the correct textbook, your notebook, and the assignment due ready on your desk.
- We will be using the calculator as a tool for explaining certain concepts or performing labs; therefore it is imperative that you bring it to class each day! We will not use the calculator as a crutch, so you may not be allowed to use a calculator on certain assignments or tests; however working knowledge of a graphing calculator is essential to success in this class.
- The following are NEVER allowed in class: candy, gum, or drinks (other than H<sub>2</sub>O)
- You will be held accountable to take an active part in the learning process. Don't EVER be afraid to ask a question in this class.
- It is ESSENTIAL that only one person speaks at a time, while everyone else listens. Treat each other with respect.
- The bell does not dismiss the class. I do!
- The classroom must be cleaned after each class. Please pick up around your desk.
- I expect students to exhibit responsible and attentive behavior in class.
- Disruptive or inappropriate behavior will not be permitted in class.
- SLCA rules of conduct and dress code apply at all times
- You will be held accountable for your own actions. Excuses will neither be tolerated nor accepted.
- What we do in class is extremely important. Therefore it is ESSENTIAL that you are in the room and are taking an active part in the learning process. It is your responsibility to be on task for the entire period

#### **Formula for Success:**

- **Take Notes-** you should be writing down more than just equations and formulas. For example, why a certain formula was appropriate or a written explanation of how and why a certain step was performed will be of much use later on. Remember that your notes are your interpretation of the information presented.

- **Go** over your notes as soon as possible after class to fill in any missing information and to check to see whether you understand what you have written. By Friday, the details you didn't write down on Monday will probably be missing from your memory as well as your notes.
- **USE** your notes when doing homework or studying for quizzes and tests.
- **READ YOUR TEXTBOOK** to supplement the lesson, to reinforce what was learned, and to further your knowledge of the subject
- **Your role as a student** is to put forth your best effort to learn every day. This is accomplished by being attentive in class, participating in discussions, completing each assignment to the best of your ability, and reviewing/studying your notes until you have mastered an understanding of each example. You must also be respectful of your peers and their right to learn. Thomas Edison didn't invent the light bulb till the 1,800<sup>th</sup> try. If you answer a problem incorrectly, try again. Who knows, you might just get it right the second time, or the third, ...

**Christian Perspective:** As a Christian School we will try to apply daily the Word of God in all that we do. Here are some verses that I thought would be appropriate to apply as we start the academic school year:

- **Colossians 3:17** And whatever you do, whether in word or deed, do it all in the name of the Lord Jesus, giving thanks to God the Father through Him
- **Colossians 3:23** Whatever you do, work at it with all your heart, as working for the Lord, not for men.
- **Philippians 2:14** Do everything without complaining or arguing, so that you may become blameless and pure, children of God without fault in a crooked and depraved generation, in which you shine like stars in the universe as you hold out the word of life...

**Required Supplies:**

- Notebook ( 3 ring binder with pocket preferred). Students may use a spiral notebook, but will then need a folder for handouts. Do not use the book as a folder.
- Paper & **Pencil**, of course
- A **Graphing Calculator** is required for the course. It is recommended that students purchase a TI-84+ calculator. Depending on the content, a calculator may or may not be permitted during a quiz or test