JOHN F. KENNEDY HIGH SCHOOL
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HOME OF THE COUGARS

2021-2022 COURSE SYLLABUS FOR ADVANCED PRE CALCULUS

DEPARTMENT OF MATHEMATICS

1.	**COURSE NUMBER, TITLE, UNITS AND PRINCIPAL/DEPARTMENT APPROVED DESCRIPTION**	
	Advanced Pre-Calculus Honors (Two semesters; 5 units each semester; 10 units total)	
2.	**GENERAL INFORMATION**	
	Term and year:	Fall 2021 - Spring 2022
	Instructor:	Ms. Hu
	Class Room:	T6
	Phone number:	395 - 5090 x506806
	E-mail address:	Wei-hu@scusd.edu
3.	**TEXTBOOKS AND/OR RECOMMENDED OR REQUIRED READINGS**	
	Blitzer Precalculus 6th Edition	
4.	**GENERAL OVERVIEW**	
	This class is designed to prepare students for college level calculus. Concepts are presented and explored algebraically from graphical and numerical perspectives. Students are expected to participate actively in the development of all concepts. This course is about algebraic and geometric concepts that are important prerequisites for calculus success. In addition, this course is also about algebraic (and trigonometric) mechanics and problem solving to develop the skills and stamina necessary to solve lengthy, multi-step problems, involving a variety of pre-calculus mathematical concepts. Topics covered in this class include the study of functions (polynomial, power, exponential, logarithmic, logistic, rational, irrational, and trigonometric), extensive coverage of trigonometric applications, conic sections, polar coordinates, parametric equations, complex numbers, vectors, matrices, and limits.	
5.	**COURSE OBJECTIVES**	
	Students will acquire and demonstrate knowledge of the concepts, definitions and properties required to meet the precalculus mathematics standards. Students will develop critical thinking and decision-making skills by connecting concepts to practical applications needed to be productive members of society. All students are expected to demonstrate the following objectives:	

- Students should be able to work with functions represented in a variety of ways: graphical, numerical, analytical, or verbal. Students should understand the connections among these representations.
- Students should be able to communicate mathematics both orally and in well-written sentences and should be able to explain solutions to problems.
- Students should be able to model a written description of a physical situation with a function.
- Students should be able to use technology (graphing calculators and graphing software) to help solve problems, experiment, interpret results, and verify conclusions.
- Students should be able to determine the reasonableness of solutions, including sign, size, relative accuracy, and units of measurement.
- Students should develop an appreciation of mathematics as an integrated coherent body of knowledge and as a human accomplishment.

6. COURSE REQUIREMENTS, ATTENDANCE AND SPECIFIC GRADING POLICY

Students earn grades. Grades are based on demonstrated mastery of concepts and development of skills, not effort or potential. *The major component of your grade is determined by your results on exams and quizzes*. Progress reports are available on Infinite Campus and I expect students and parents to familiarize and use this site. Student performance will be based on assignments, which includes homework (based on work collected), in class assignments (based on work collected such as worksheets, activities,), and tests which includes tests, quizzes, and the final exam. The overall course grade will be based on the following percentage distribution.

The following percentage scale will be used in determining grades:

90% - 100%	A
80% - 89%	B
70% - 79%	C
60% - 69 %	D
50% - 59%	F

85%	Tests, group tests, quizzes, other assessments, common unit exams
15%	Participation in all class activities, and completion of assignments, warm-ups, practice, etc.

7. DESCRIPTION OF MAJOR ACTIVITIES/EXERCISES/PROJECTS

Instructional Strategies and Activities Include:
· Lecture on concepts and techniques
· Presentation/modeling of examples and strategies
· Large and small group discussions and explorations
· Reading and writing assignments
· Practice and learning through classwork and homework assignments
· Applications to demonstrate relevance and extend learning
· Active student engagement in group work and discussions
· Quizzes, and tests to encourage and monitor learning

8. GENERAL STATEMENTS

Students are expected to be familiar with and adhere to policies in the JFKHS Student Handbook. The student handbook identifies student rights, responsibilities, discipline rules and consequences, behavior, and other information for academic and social success.
Student ignorance does not provide justification for failure to follow the information contained in the student handbook. All material submitted can be retained by the instructor. If you desire copies of any submitted materials, then duplicate copies for yourself before submission. The Principal reserves the right to modify and/or change the course syllabus as needed during the course.

CLASSROOM BEHAVIOR EXPECTATIONS: The following summarize important expectations for classroom behavior. Students are expected to:

- attend class every day.
- complete all assignments on time.
- be seated and prepared for learning when the bell rings.
- treat their classmates with respect; no put downs or bullying of any kind.
- actively and positively participate in class.
- demonstrate personal responsibility, honesty, and integrity in all of their actions.

CLASSROOM RULES: The following few rules guide classroom behavior and activity.

- Follow teacher directions and requests immediately.
- Keep your hands, feet, and other objects to yourself.
- Remain seated unless you have permission to move about the classroom.
- Eating (food, candy, etc.) and gum chewing are not permitted in the classroom.

ELECTRONIC DEVICES: Electronics (music devices, cell phones, etc.) are to be turned completely off and away. Cell phones are *not* acceptable calculator devices and their use as such is not permitted under any circumstances.

HOMEWORK AND STUDY: Homework and student study is an essential part of your education. Any student expecting to do well in this course should carefully read the text and do all the assigned work.

TESTS/EXAMS: A comprehensive test to measure students' mastery of skills and concepts will be given, as a minimum, at the end of each chapter/unit; mid-chapter tests and quizzes will also be given based on chapter content. Students will be informed of the comprehensive test date at least a week in advance. Unexcused absences before the test date do not excuse a student from taking the test as scheduled. Lastly, a comprehensive end-of-semester final must be taken at the end of each semester. In addition, quizzes will be

given periodically to measure skill mastery progress.

CHARACTERISTICS OF QUALITY WORK: Using the following guidelines will help you master the precalculus objectives. Quality work has the following characteristics.

- Is complete with full solution. That is, all problems are completed or at least attempted.
- The supporting work for each problem is shown completely using proper algebraic conventions and notations.
- The work is done neatly.
- The work is done accurately.

ACADEMIC DISHONESTY: Academic dishonesty is considered a serious offense in my class. Students cheating will face serious consequences. I encourage collaboration on all assignments but I expect the work you hand in (assignments, exam/quiz, etc.) to be your own.

CALCULATOR USE AND EXPECTATION: A graphing calculator is strongly recommended for this class (preferably a TI-83/84 Plus as the text correlates with TI). The calculator is a tool to aid in learning concepts, not just a means of computation. Graphing calculator use will be allowed on some tests and quizzes during the year. However, when not allowed, student should have a scientific calculator available (ie. TI-30). Absolutely no cell phones will be allowed for calculator use.