**PreCalculus Syllabus**

**Instructor: Priscilla Hadden**

PreCalculus is designed for students who intend to pursue a career in science, mathematics, engineering, or technology (STEM) that requires a study of calculus. It prepares students for calculus at the postsecondary level or AP Calculus at the high school level. Students must successfully complete Algebra II with Trigonometry before enrolling in PreCalculus.

PreCalculus builds on the study of algebra and functions in Algebra II with Trigonometry, adding rational functions, all trigonometric functions, and general piecewise-defined functions to the families of functions considered. It takes a deeper look at functions as a system, including composition of functions and inverses. It expands on the study of trigonometry in previous courses and considers vectors and their operations.

PreCalculus seeks to provide opportunities for creative thinking, problem solving, and advanced level academic learning. As such, PreCalculus **can be extremely demanding. THIS COURSE REQUIRES A LOT OF HARD WORK!** Most problems will involve higher order thinking skills, and logical, sequential thought processing to include application and synthesis. A high level of skill in algebra is essential.

The psychology of mathematical problem solving: A teacher can guide students through a complex mathematical problem merely by asking questions. By learning to ask questions of yourself, you can gain the same level of problem solving skill without having a teacher present. It’s called metacognition and **IS** a skill you will acquire.

Powerful mathematical problem solvers also frequently use a type of free association. By learning to associate small hints with the corresponding algebraic principle, they can often visualize an equation for a problem even before they have fully read it. Again, it’s a skill that can be learned.

**REQUIRED MATERIAL:** Notebook/Binder, Pencils, Scientific Calculator

**ATTENDANCE:** Your attendance and punctuality will determine your success in this course to a large extent. Your absences adversely affect not only your own learning, but also the interaction and participation level of the entire class. Therefore, everyone is expected to be present and on time for every class. On the very rare occasion that an absence does occur, it is the student’s responsibility to learn the material missed and complete all missed work. The instructor is not required to review any material missed as a result of the absence nor is the instructor required to arrange for make-up tests.

**INSTRUCTION:** Instruction will include guided practice, demonstration, lecture, and cooperative learning.

**HOMEWORK:** Homework is expected to be completed when assigned. To learn anything well requires practice-practice-and more practice! In addition, homework lays the foundation from which to ask questions. You should do the homework with the idea of engaging the concepts and doing the assignment well, not just to get it done. Working with others is encouraged. However, copying the work of others and presenting it as your own is unacceptable. Feel free to ask in class how to do any problem, assigned or not. You cannot expect to do well in any class if you do not do your homework and are not willing to ask questions.

**STUDENT RESPONSIBILITY:** You will be expected to take part in the class by doing your work, paying attention, and asking and answering questions. You can expect to have an assignment every class period. We do not have time to waste.

**EVALUATION:** Based on the completion of material and readiness of the students, quizzes and tests will be given. There will be NO retakes in this class. Therefore, it is imperative that you take excellent notes, ask questions, do your work, ask more questions, and prepare thoroughly for each quiz or test. Student performance is evaluated on rigorous standards appropriate for the grade and content of the course. Cheat sheets will not be allowed. Generally, calculators are not allowed with some material. Each problem will be graded for procedural correctness, as well as numerical correctness and correct use of units. Numerical answers must be expressed in the same format as the original problem, or they will be marked incorrect. All answers which are physically unreasonable will be marked incorrect. For security reasons, **TESTS ARE NEVER SENT HOME.**

**COURSE LETTER GRADES:** A= outstanding maybe the top 15%. Excellent prospects for success at the next level. B= very good, significantly above average. Very good prospects for success at the next level. C= a lot of learning, average for those who attend regularly and do the work. With enough work, success at the next level is likely. D= some learning but not enough to expect success at the next level. F=little learning, no credit.

Note: “Learning” refers to skills and concepts **newly acquired** in this course, not to prerequisite skills and concepts you already gained in prerequisite courses. Do not expect you can simply coast to a good grade by using your previous knowledge of Algebra II and Trigonometry.

**HELP:** Students who are not succeeding in the class are encouraged to meet with the instructor. “Helps” sessions are available.

**GOALS: Do not be fooled! Our goal in this course is to develop your ability to read, write, think, and do mathematics at the level required for success in college.** The apparent content may be vaguely familiar, but this course asks you to learn it, and the principles of mathematical language as well, in a new way that will raise you to a far higher level of mathematical ability.

This course will help you

1. Learn (remember) the methods and facts of Algebra so well that you have them at your command (even without recent review).
2. Learn how and when to use a calculator.
3. Become good at word problems.
4. Understand what you do.
5. Learn to read symbolic mathematics fluently (and, in the process, learn how to learn math by reading it).
6. Learn to work abstractly with symbols and functions (as comfortably as you now work with numbers).
7. Learn to explain (symbolically, and in English) key general results.
8. Learn to illustrate (with illuminating pictures) key general results.
9. **Remember** (with the help of symbols, English explanations, and pictures) key general results. **What good does it do to have math if you don’t remember it?**

**TO SUCCEED IN THIS CLASS:**

1. Read and study each section within the unit.
2. Complete homework problems. Check solutions at end of text.
3. If having difficulty, seek help. Ask in class.
4. Participate in class.
5. Keep a meticulous notebook.

**TO FAIL THIS COURSE** (or any worthwhile course):

1. Be absent a lot. Be late the rest of the time.
2. Daydream or sleep during class.
3. Don’t ask any questions or volunteer answers to questions posed in class.
4. Put off doing homework, or don’t do it at all.
5. Maintain a negative attitude towards the class or about your ability to succeed.
6. Don’t get help when you need it.
7. Be totally unorganized and sloppy.
8. Give every other thing in your life a higher priority than your education.

**To the Parent:**

Please read and discuss this material with your son or daughter. It is very important to me, as the instructor, that you and your child understand the expectations and requirements of this course.

All students are encouraged to keep a written record of their scores and to tally grades themselves during the nine weeks.

I appreciate your support and look forward to a very productive year.

Please return this page to me signed by the end of the first week of school.

\*I have read and reviewed with my child the information regarding PreCalculus expectations and content.

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**Parent Signature Date**

\*I have read, reviewed, and understand the information regarding PreCalculus.

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**Student Signature Date**