



University of Pittsburgh at Bradford

College in High School

Name of High School: Port Allegany Junior/Senior High

Course Title:	Pre Calculus
Course Number:	Math 0132
Credit Hours:	Four (4) Credits
Prerequisites:	Algebra II or Equivalent
Prepared by:	Kristina Francis kfrancis@pasdedu.org 814-642-2544 ext 128 20 Oak Street Port Allegany, PA 16743 Office Hours: 7:45 am to 8:30 am 12:10 to 12:40 pm 3:15 pm to 4 pm
Date Prepared:	September 2016

COURSE DESCRIPTION:

The topics include functions and graphs- linear, quadratic, polynomial, rational, exponential, logarithmic, and trigonometric-analytic trigonometry, and solving systems of two equations in two variables. Students learn graphing skills and use the aid of the TI-*nspire* CX and TI-*nspire* CX CAS calculator and techniques which are not only necessary for the calculus sequence but also for other courses. This course provides students with an understanding of the concepts of functions and graphs.

COURSE OBJECTIVES:

Students will: Explore various ways to solve complex functions and prepares students for Calculus and other science courses. Pre-calculus students will focus on functions and their graphs, polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, analytic trigonometry, limits, and derivatives of functions. (see tentative class outline for further descriptions)

COURSE TEXT(S):

PRECALCULUS Mathematics for Calculus 6e – Stewart, Redlin, and Watson

A. Course Requirements:

ABSENTEEISM:

If you have been ABSENT, if possible please find out before coming to class what notes, assignments, quizzes, etc. you have missed. If you are absent only the day of a test or quiz, you will take it the next day that you are available to make up the test during your study hall or before/after school. The make-up tests will not be given during class time, since you will get behind on that day's lesson. If make-up tests are not completed within 5 days after the day of test, **the score will be a zero**. If you know you are going to be absent from class due to appointments, athletics, meetings, or other school related functions, please see me ahead of time. **YOU ARE RESPONSIBLE** for coming to me to ask for the work that you have missed and to turn in assignments on time. There is a weekly assignment board located in the classroom.

Students are expected to be in your seat and ready to begin class when the bell rings. Do not congregate in the doorway or anywhere else. Books should be open to the proper pages, and practice assignment should be on desks ready to review. Be prepared to ask questions, complete problems on the board, and participate in class activities. Remember you PANTS for class every day:

Pencil Assignment Notebook Textbook Scientific (Graphing) Calculator

EXTRA HELP:

If you need extra help or tutoring **DO NOT WAIT**, ask for help early and often. You may seek extra help from me before or after school or 7th period (12:06 – 12:48 pm). I would also encourage you to ask other math teachers or classmates for assistance. Also, math tutoring is available in the lab 34 during morning homeroom (8:00 – 8:30 am) Monday - Thursday.

Thank you for your cooperation and effort throughout the upcoming year. You begin with an "A," your job is to work towards keeping that grade by paying attention in class, completing the given assignments, and reviewing/practicing problems daily. If you put forth the effort, you can and WILL succeed in the course!!

B. Course Assignments:

ASSIGNMENTS:

Mathematics is not a spectator sport. In order to learn new skills and be successful, you must practice. If you want to become proficient in math, you must **DO YOUR WORK** (Practice assignments in or out of class). You should expect daily math assignments. A score of 5 points is possible to earn for every practice assignment. Students' assignments will usually be checked the following day. The following heading must be on the top of all assignments to receive any credit. Original problem and all necessary work must be shown to receive full credit (single answers will not suffice). Students should correct their work/problems in class as assignments are reviewed. We will also use a variety of post-its for corrections of problems. Accuracy assignments will be given after two or three days of similar lessons. This will be graded for correctness of work and final solution.

TRIG Period	First and Last Name
Page and problem #'s	Date

NOTEBOOKS/BINDERS:

Students will KEEP a NOTEBOOK containing classroom notes, examples, and any additional side notes. ORGANIZATION is one of the keys to success in mathematics. Notebooks are for notes not assignments for your benefit. When asking for help outside of class, notebooks must be present with

appropriate sections of notes. Students will keep all assignments (book work and worksheets) in a binder along with their class notes. Binders will be checked quarterly at minimum.

GRADES:

Grades are determined by accumulated points from practice problems, accuracy assignments, binder checks, quizzes, projects, and class participation. The grading scale is consistent with the one found in the student handbook. MAJOR QUIZZES are given after every section is completed and will be announced at least two days in advance but pop quizzes may also be given. All math work will be completed in **PENCIL** to avoid messy, unreadable work. If I need a road map to follow your work, the problem will be considered wrong. A mid-term will be given at the end of the first semester on the topics from the first two quarters. A final will be given at the end of the second semester on the topics for the year that meet the UPB requirements.

C. Course Calendar/Outline:

Month	Concepts
September	Chapter 1: Fundamentals Sect 1.1 Real Numbers Sect 1.2 Exponents & Radicals Section 1.1 & 1.2 Quiz Sect 1.3 Algebraic Expressions Sect 1.4 Rational Expressions Section 1.3 & 1.4 Quiz Sect 1.5 Equations
October	Sect 1.6 Modeling with Equations Section 1.5 & 1.6 Quiz Sect 1.7 Inequalities Sect 1.8 Coordinate Geometry Section 1.7 and 1.8 Quiz Sect 1.9 Graphing Calculators; Solving Equations and Inequalities Graphically Sect 1.10 Lines & Scatter Plots Sect 1.11 Making Models Using Variation
November	Section 1.9 to 1.11 Quiz Chapter 2: Functions Sect 2.1 Functions Sect 2.2 Graphs of Functions Sect 2.5 Transformations of Functions Section 2.1, 2.2 and 2.5 Quiz Sect 2.6 Combining Functions Sect 2.7 One-to-One Functions and Their Inverses.
December	Section 2.6 & 2.7 Quiz Chapter 3: Polynomial and Rational Functions Sect 3.1 Quadratic Functions and Their Models Sect 3.2 Polynomial Functions and Their Graphs Sect 3.3 Dividing Polynomials Sect 3.4 Real Zeroes of Polynomials Chapter 3 Quiz
January	Midterm Chapter 5: Trigonometric Functions: Unit Circle Approach Sect 5.1 The Unit Circle Sect 5.2 Trigonometric Functions of Real Numbers Section 5.1 & 5.2 Quiz Sect 5.3 Trigonometric Graphs

	Sect 5.4 More Trigonometric Graphs Sect 5.5 Inverse Trigonometric Functions and Their Graphs Section 5.3 to 5.5 Quiz
February	Sect 5.6 Modeling Harmonic Motion & Ferris Wheel Application Chapter 6: Trigonometric Functions: Right Triangle Approach Sect 6.1 Angle Measure Sect 6.2 Trigonometry of Right Triangles Sect 6.3 Trigonometric Functions of Angles Section 6.1 to 6.3 Quiz
March	Sect 6.5 The Law of Sines Sect 6.6 The Law of Cosines Section 6.5 to 6.6 Quiz Chapter 7: Analytic Trigonometry Sect 7.1 Using Fundamental Trigonometric Identities Sect 7.2 Addition and Subtraction Formulas Sect 7.3 Double-Angle, Half-Angle, and Product-Sum Formulas Section 7.1 to 7.3 Quiz Sect 7.4 Solving Basic Trigonometric Equations
April	Sect 7.5 Solving More Trigonometric Equations Section 7.4 to 7.5 Quiz Chapter 4: Exponential and Logarithmic Functions Sect 4.1 Exponential Functions and Their Graphs Sect 4.2 The Natural Logarithmic Function Sect 4.3 Logarithmic Functions Sect 4.4 Properties of Logarithms Section 4.1 to 4.4 Quiz
May	Sect 4.5 Solving Exponential and Logarithmic Functions Sect 4.6 Modeling with Exponential and Logarithmic Functions Section 4.5 to 4.6 Quiz Chapter 10: Systems of Equations and Inequalities Sect 10.2 System of Linear Equations Sect 10.3 Matrices and Systems of Linear Equations CHS – FINAL Chapter 12: Sequences, Series, and Probability Sect 12.1 Sequences and Series Sect 12.2 Arithmetic Sequences and Partial Sums Sect 12.3 Geometric Sequences and Series

D. Evaluation Procedures/Grading

Each quarter grade will consist of the following possible scores:

200-240 Points	Announced/Pop Quizzes
150-200 Points	Practice & Accuracy Assignments
60-100 Points	Final (only Quarter 4)
<u>80-100 Points</u>	<u>Projects/Miscellaneous</u>
Approximately 460-690 Points per Quarter	

PERCENTAGE OF POINTS EARNED		GRADE
100	95	A
94	92	A-
91	89	B+
88	86	B
85	83	B-
82	80	C+
79	77	C
76	74	C-
73	71	D+
70	68	D
66	65	D-
64	0	F

Academic Integrity:

Members of the University community, both faculty and students, bear a serious responsibility to uphold personal and professional integrity and to maintain complete honesty in all academic work. Violations of the code of academic integrity are not tolerated. Students who cheat or plagiarize or who otherwise take improper advantage of the work of others, face harsh penalties, including permanent dismissal. Incidents of forged signatures that are associated with any academic endeavor at Pitt-Bradford, in addition to being a criminal offense, are viewed as violations of academic integrity. The academic integrity guidelines set forth student and faculty obligations and the means of enforcing regulations and addressing grievances. Violations of academic integrity will be tracked by the Dean of Academic Affairs. Refer to the Pitt-Bradford Student Handbook for general guidelines on academic integrity. Copies of the complete Guidelines on Academic Integrity are available in the Office of the Dean of Academic Affairs (232 Swarts Hall.)

Plagiarism:

Submission of work prepared (written) by anyone (or organization) other than the student who is taking the course is not academically honest. Use of ideas and concepts taken from other sources is permissible but only if credit is given to the original author. When direct information is presented, it shall appear as quoted material. Sources of information used in the preparation of the assignment must be cited and credit must be given to the author(s) of the original work(s).

Failure to properly cite information and/or submission of work prepared by anyone other than the student registered for the course shall be considered plagiarism. Such academic dishonesty is subject to severe consequences relative to grades and/or credit for the course. This warning also applies to the submission of work prepared for another course and submitted wholly or in part for the completion of an assignment for a second (third) course. Use of a product (assignment) for more than one course (grade) is permissible only with written permission of the responsible professor.

Classroom Civility:

Every student brings to the classroom a unique point of view. Everyone has different experiences and different backgrounds. We tend to think and learn in our own way, based in part on our own social and cultural background. Therefore, we have all formed opinions and perspectives that may or may not be shared by others. However, we should all treat each other with respect and decency. In this course, we may look at controversial topics that can provoke strong responses. While students are encouraged to engage in discussion about such, it is also expected that all students to do so with civility, respect, and integrity.

To establish a comfortable learning environment, we must have mutual respect and civility. This includes coming to class on time, not disrupting the class with cell phones or pagers, and discussing things in an academic, rather than a personal manner. While in class, **do not talk, read non-course material, listen to headphones, use cell phones, or catch up on sleep.** Please do not start packing up when there is still time left, as it will not get you out any quicker. Let us all be well-mannered, kind to one another, have fun, and learn!