

Precalculus MPS21/MPS22

Mr. Shahom

jshahom@schools.nyc.gov

Fall & Spring 2019-2020

COURSE DESCRIPTION

- This course is a continuation of the course that preceded it. Students will explore algebraic and trigonometric concepts in more depth than the previous course, while simultaneously developing alternative solution strategies via technology. Students will also investigate the relationship between algebraic and graphical concepts, applying this relationship to problem solving situations. Students will gain exposure to topics that will be necessary for mathematics courses at the post-secondary level. This course will prepare the student for the SAT Subject Tests in Mathematics, an AP Calculus course, and/or a college calculus course.
- This course meets five days per week in 43 minute periods.

LEARNING STANDARDS

In this course, students are expected to learn the content standards associated with Precalculus, which are based on the New York State Common Core Learning Standards for Mathematics. Topics include:

- The Real and Complex Number Systems
- Perform Operations with Complex Numbers
- Seeing Structure in Expressions
- Analyzing Polynomial, Rational, and Piecewise Functions Using Different Representations
- Expressing Geometric Properties with Equations
- Building New Functions From Existing Functions
- Extending the Domain of Trigonometric Functions Using the Unit Circle
- Proving and Applying Trigonometric Identities
- Linear, Quadratic, Exponential, Logarithmic, and Trigonometric Modeling
- Solving Systems of Equations, Performing Operations on Matrices, and Using Matrices in Applications
- Translating Between the Geometric Description and the Equation for a Conic Section
- Making Inferences and Justifying Conclusions

APPROXIMATE CALENDAR OF UNITS (SUBJECT TO CHANGE)

- September through October:
 - Special Factoring Methods
 - Polynomial Functions
 - Piecewise Functions
- November through December:
 - Graphing Polynomial Functions
 - Graphing Rational Functions
 - Exponential and Logarithmic Functions
- January:
 - Trigonometric Functions and Complex Numbers
 - Systems of Equations and Matrices
- February:
 - Sequences and Series
 - Mathematical Induction
- March through April:
 - Conic Sections
 - Polar Coordinates
- May through June:
 - Introduction to Limits and Derivatives

COURSE MATERIALS/RESOURCES

- This course will use the textbook *Precalculus with Limits: A Graphing Approach*, Sixth Edition, by Ron Larson.
- The textbook will be supplemented by handouts and worksheets.
- A math notebook is required and must be brought to class every day; it must be kept neat and organized and may be checked at any time. When homework is reviewed in class, you are expected to correct any errors you may have made.
- Graphing calculators will be used regularly in class. It is strongly recommended that students purchase their own graphing calculators, preferably any of the Texas Instruments TI-83 or TI-84 family graphing calculators, as instructions will be tailored to these calculators. If you use a different calculator, you will need to learn how to use it on your own.

ASSESSMENTS & GRADING

- Each semester there will be six full-period examinations, with one class session devoted to review prior to each exam.
- Each exam is worth 100 points and is cumulative.
- Exam dates will be announced well in advance.
- Homework will be checked regularly and graded for completeness and effort, but usually not for accuracy.
- **MARKING PERIOD GRADES ARE CALCULATED BASED ON THE FOLLOWING:**
 - Exams..... 60%
 - Homework..... 15%
 - Classwork/Participation..... 25%
- Marking periods grades are cumulative. Your third marking period grade is the final grade for the semester, which will appear on your transcript.
- Late work will not be accepted without verifiable extenuating circumstances.

PARTICIPATION/ATTENDANCE/BEHAVIOR EXPECTATIONS

- Students are expected to participate actively during class, including note-taking, asking and answering questions, attempting all problems, and staying on task.
- Students are required to present problems at the front of the classroom on a regular basis.
- If you enter the class late or leave at any time during the class, you must sign the out-of-room log, stating the time of entry/exit and the reason you are arriving late or leaving the classroom.
- School rules and regulations will be followed. Eating is not permitted during class. Electronic devices should not be used during class unless given explicit permission by me.

LETTERS OF RECOMMENDATION FOR COLLEGES OR OTHER PROGRAMS

- In order to allow time for me to write a thoughtful and detailed letter of recommendation, you should see me in person (not by email) *at least* four weeks prior to the deadline. Requests made with less than four weeks' notice will be denied.

WEB SITE

- Important announcements, exam dates, homework assignments, and more will be posted at <http://www.shahomework.com>.

I have received a copy of the course syllabus for *Precalculus* and understand I/my child will be held responsible for all of the course requirements and school policies described therein.

Student Name

Student Signature

Parent/Guardian Name

Parent/Guardian Signature

Preferred Method of Parent Contact

Phone _____

Email _____