

Torah Highschool : Precalculus

Year: 2025-2026

Room: 306

Meeting Times: MW 3-4:20, F 9:15-9:55 Instructor: Gisue Kharrati

Welcome to Precalculus!

My name is Gisue Kharrati, and I am excited to start this new semester with you all and be part of your high school journey. This year, I am teaching Precalculus as well as AP Statistics at Torah High. I will do my very best to make sure that you are all successful if you meet me half-way!

I understand that math can be a scary subject but we can all overcome this fear with patience and guidance so I hope you can place your trust in me to help you go through this process.

Torah girls, you are important to me, and I hope that we can all learn together and exchange knowledge. I encourage you to ask questions, challenge yourself, and trust the process. One thing I ask of you is that to be successful in calculus later, you need to attend the class and be ready to learn.

To the right you will find my contact information in case you ever need help with anything. Remember that I am here to help you but only if you allow me to do so.

CONTACT INFORMATION

Email: gkharrat@sdccd.edu

ZOOM: <https://sdccd-edu.zoom.us/my/longliveandprosper>

Let's use the [Remind App](#) (8am-9pm please) so that you can text me your concerns by using this text app

Click here on [Remind](#) to sign up so that you can text me when you need help with your work. With this link we are connected through texting. Please use your full name when signing up.

REQUIRED MATERIALS

-TI-36x pro or the graphing calculator



About me: Bio: Born in Tehran, Iran. Moved to the US in 1980. Got my BS from CSUF in Applied Math, and Masters in Math Education from SDSU. I have been teaching at Mesa College for the past 19 years. Married with one son. My son is a rising 2L at Georgetown Law School. My husband has been an electrical engineer doing both hardware and software for tech companies for the past 30+ years. Both my husband and I love math and use it daily. We don't know what happened to our son 🤔.

I love dancing, watching Korean dramas, hanging out with family and friends, traveling, and eating and making good food. I truly love my students and wish them happiness and prosperity. My wish is that by the end of this school year, you have learned a lot about Precalculus, and you have gotten prepared for Calculus next year, and hopefully you had fun in the process.

Attendance:

I will take daily attendance. If a student is going to be absent from class, then the student must inform the instructor of the absence prior to missing that class.

Academic Integrity:

Students are expected to be always honest and ethical in the pursuit of academic goals.

- 1) You must have supported work for all calculated answers.
- 2) If your supporting work matches work on any external website (Chegg, CourseHero, Symbolab, etc), you will receive a ZERO for the assignment
- 3) If your work is done a different way, you WILL be asked to explain thoroughly.

If any of the above are shown to be the case, you will be questioned on your work and disciplinary action may be taken.

I am extremely strict on these regulations and by you staying in this class means that you adhere to these standards. This does not mean you cannot ask for help or have tutors. Just make sure you understand what you are doing.



Please check the due dates schedule on the last page.

Grades Breakdown:

Homework (20%)	Every section will have its own homework so that we become extra prepared for the next section 😊
Quizzes (10%)	Pop quizzes will give us an extra something to look forward to 😊
Class Assignments (20%)	Daily class assignment will given so please be prepared to attend and hopefully enjoy the assignments 🍷
Tests (50%)	You will have multiple tests (one after each chapter). A comprehensive Final will be given at the end of the year. 😞

I don't typically accept late work so take advantage of the multiple dropped assignments. However, I am flexible if something happens!

Canvas Access:

You will all have access to Canvas on the first day of class and it is where everything will take place. There, you will be able to access all the resources, including lecture notes. Quizzes and homework will be submitted in Canvas. Your grades can also be accessed on Canvas. Please keep track of your grade and if you note any errors, please let me know.

Calculator:

Calculators will be allowed. I would prefer you to all get a TI 36x pro. You will thank me later if you get this one! Graphing calculator is fine as well but the TI 36X Pro is less expensive. If you think you might end up taking AP Stats, then buy a graphing calculator like TI 84.



Optional Textbook:

No textbook but there are a couple online pdf versions available on Canvas if you want one for reference.

Grades will be based on the following percentage scale:

- A (90-100)
- B (80-89.9)
- C (70-79.9)
- D (60-69.9)
- F (0-59.9)

*****I do NOT curve grades. There will be an extra credit assignment at the end of the semester that can help you boost your grade by 1% just in case you land close to a letter grade up.*****

Need help?

There are plenty of resources across campus to seek help!

- 1). Me! You are always welcomed into my office or you can text me on the Remind.



2). Form study groups with your classmates. There will be plenty of opportunities to work together through discussion boards. Some of you have known each other in previous courses so feel free to collaborate.



Course Description

This course is a study of numerical, analytical, and graphical properties of functions. The course content includes polynomial, rational, irrational, exponential, logarithmic, and trigonometric functions. Additional topics include inverse functions, complex numbers, polar coordinates, matrices, conic sections, sequences, series, and the binomial theorem. This course is designed as a preparation for calculus and is intended for the transfer student planning to major in mathematics, engineering, economics, or disciplines included in the physical or life sciences.

NOTE: This course is designed as preparation for calculus, and it is intended for the transfer student planning to major in mathematics, engineering, economics, or disciplines included in the physical or life sciences. If there are any topics that you don't understand or confuse, do not be afraid to ask me to go over or review! Just ask and I will provide you with adequate support. Whether you are taking Calculus or not, I will be teaching the class with that goal in mind to maximize understanding. **Patience and discipline** will be especially important for your success in this class.

Course Objectives

Upon successful completion of Precalculus the student will be able to:

1. Define and distinguish between higher order polynomial functions and non-polynomial functions and relations and analyze the graphs of functions by determining their domains and ranges.
2. Analyze properties of functions and their graphs, including symmetries, increasing and decreasing intervals and their end behavior asymptotes.
3. Prove algebraically and justify graphically when a function one-to-one.
4. Graphs a variety of algebraic, rational, exponential, logarithmic, and trigonometric functions, and where applicable, use rigid and non-rigid transformations, intercepts and asymptotes.
5. Perform algebraic operations on various functions including composition of functions, and determine the domain of the resulting function.
6. Calculate the inverse of a one-to-one function, determine the domain, range of the inverse, and describe the relation between their graphs.
7. Solve equations and application problems involving exponential and logarithmic functions.

8. Simplify difference quotients involving a variety of functions including polynomial, rational, trigonometric, exponential, and logarithmic functions.
9. Apply a variety of root finding theorems and tests in order to factor polynomials or solve polynomial equations whose degree is higher than quadratic.
10. Simplify rational expressions and expressions involving radicals that arise from calculus operations such as those from the product or quotient rules.
11. Determine the partial fraction decomposition of rational functions.
12. Define, evaluate, describe and graph all trigonometric and inverse trigonometric functions, and solve equations involving these functions.
13. Derive and prove fundamental trigonometric identities including the sum, difference, double and half angle identities.
14. Apply the laws of sines and cosines in solving oblique triangles and in application problems.
15. Represent complex numbers in standard, trigonometric and exponential forms and perform arithmetic operations with each.
16. Perform algebraic operations involving matrices.
17. Apply matrices in solving linear systems of equations.
18. Compute the determinant of a square matrix and apply determinants to various applications.
19. Apply vector algebra to problems involving vector quantities.
20. Apply vector operations of the dot product and the cross product and formulate their geometric interpretations.
21. Analyze, identify and graph the four conic sections.
22. Solve systems of non-linear equations and inequalities, including those involving conic sections.
23. Define and analyze sequences and series, including arithmetic and geometric sequences and series.
24. Apply the binomial theorem to expand powers of binomial expressions.
25. Prove elementary mathematical statements using the principal on Mathematical Induction.

Course Materials

1. Canvas Access:

You will all have access to Canvas on the first day of class. There, you will be able to access all the resources for the class, including a direct link to MyOpenMath, lecture notes, quizzes, and classwork assignments. Classwork assignments, and some quizzes will be submitted in Canvas.

Your grades can also be accessed on Canvas.

2. **Required** a scientific calculator: I would highly recommend you all get a **TI-36X Pro**, or TI 84 (if you are taking AP Stats later on)



3. **Optional Textbook:** No book is required but if you need a reference, here is a copy of an online copy: <https://openstax.org/books/prec calculus/pages/1-introduction-to-functions>

How to Succeed in Class

- **Be Present:** Your attendance is a crucial aspect of succeeding in this class. Regular attendance will greatly elevate your chances of performing well. Please be on time and don't leave early. If something comes up, communicate with me asap.
- **Be Prepared:** Be ready to participate in class and to collaborative with others.
- **Be Organized:** Keep all the handouts, group work assignments, quizzes and tests. Those are best resources to review for the exams and final exam.
- **Be Engaged:** Ask questions! All the time! Of me, your classmates or anyone else for that matter! Express your thoughts or opinions during or after class.
- **Be Mindful:** Be aware and thoughtful of the words you choose to use in class.

Precalculus – Torah HS - TENTATIVE SCHEDULE -Year 2025-2026

MONDAY (3-4:20)	WEDNESDAY (3-4:20)	Friday (9:15 am-9:55 am)	
8/25	8/27	08/29	

Labor day Closed	9/3	09/5	
9/8	9/10	09/12	
09/15	9/17	09/19	
09/22 School Closed	9/24 School Closed	09/26 School open	
9/29 ?	10/1 School Closed	10/3 School Closed	
10/6 School Closed	10/8 School Closed	10/10 School Closed	
10/13 School Closed	10/15 School Closed	10/17 School Closed	
10/20	10/22	10/24	
10/27	10/29	10/31	
11/3	11/5	11/7	

11/10	11/12	11/14	
11/17	11/19	11/21	
11/24	11/26 (1/2 day)	11/28 (closed) Thanksgiving Day	
12/1	12/3	12/5	
12/8	12/10	12/12	
12/15	12/17	12/19 School closed	
12/22 School closed	12/24 School closed	12/26 School closed	
12/29 School Closed	12/31 School Closed	01/02 School Closed	
1/5	1/7	1/9	
1/12	1/14	1/16	
1/19 School Closed	1/21 Midterms	1/23 Midterms	
1/26	1/28	1/30	
2/2 (to be announced)	2/4	2/6	
2/9	2/11	2/13	
2/16 School Closed	2/18	2/20	

2/23	2/25	2/27	
3/2	3/4	3/6	
3/9	3/11	3/13	
3/16	3/18	3/20	
3/23	3/25	3/27	
3/30 School Closed	4/1 School Closed	4/3 School Closed	
4/6 ?	4/8 School Closed	4/10 School Closed	
4/13	4/15	4/17	
4/20	4/22?	4/24	
4/27	4/29	5/1	
5/4	5/6	5/8	
5/11	5/13	5/15	
5/18 ?	5/20	5/22 School Closed	
5/25 School Closed	5/27	5/29	
6/1	6/3	6/5	
6/8	6/10	6/13	

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