MATH 2312 Precalculus
Course Syllabus

Course Information Summer 2023

Section	Time	Instructor	Lecture Format
2312.0U1	Mon & Wed: 12:30pm – 2:45pm	Dr. Irina Martynova	Face-to-face SCI 3.230

Professor Contact Information

Dr. Irina Martynova
Office: FO 2.108
Phone: 972-883-4529
E-mail: ixm140930@utdallas.edu
Office hours: M/W 11:30 am - 12:30 pm in SCI 3.230
Contact preference: e-mail or message through Teams

Course Pre-requisites, Co-requisites, and/or Other Restrictions

Prerequisite: A score of 55% on ALEKS math placement exam or a grade of at least a C- in MATH 1314 and MATH 1316. Students must be registered in Math 2312.0U1.

Course Description

Precalculus (3 semester hours) Real numbers, subsets of real line, absolute value; algebra of functions, domain, range, composition, inverse; elements of analytical geometry including vectors in plane, conics, polar coordinates, translation and rotation of axes and related topics. Not all MATH/STAT courses may be counted toward various degree plans. Please consult your degree plan to determine the appropriate MATH/STAT course requirements.

The goal of this course is to provide the student with an understanding of algebraic, exponential, logarithmic, trigonometric and inverse trigonometric functions. Additionally, the successful student will gain proficiency in the algebraic manipulation required to succeed in Calculus.

Student Learning Objectives/Outcomes

1. Students will evaluate functions, determine their domains, and be able to find the inverse function if one exists.
2. Students will perform algebraic operations with polynomial and rational functions, and determine the domains and asymptotes of rational functions.
3. Students will evaluate and recognize exponential and logarithmic functions, and use their properties to solve exponential and logarithmic equations.
4. Students will evaluate trigonometric functions, use fundamental trigonometric identities, and evaluate inverse trigonometric functions.
5. Students will solve systems of linear equations

Required Textbooks and Materials

OpenStax Ebook: *Precalculus, 1st* edition by Abramson, Belloit, Falduto, Gross, Lippman et al.
Digital: *Webassign Access*

Additional Textbook - The material for the first week of class will be taken from the OpenStax "Algebra and Trigonometry" textbook, a PDF of which will be available on our eLearning homepage. Supplemental material for topics not covered in the text will also be available on our eLearning homepage.

If at any time you have questions, please do not hesitate to ask.

CALCULATOR: No Graphing Calculators, a scientific calculator is needed.

Textbook, calculator, lecture notes and scratch paper should be brought to each class period. Students will be working problems in class.

Additional Resources

eLearning: http://elearning.utdallas.edu requires your NETID and password to logon. Once logged in, select this course. If successful, you will see a link to the complete syllabus and additional course material. You can view your grades, use the email tool, or utilize the discussion tool to communicate with your classmates. You will receive a notice via eLearning (either an announcement, or an email) if there is additional information, exam date/location change, etc., or an urgent message, class canceled, etc., that directly impacts this course. Should a personal situation arise that you feel your instructor needs to be aware of, send that information via email.

The Student Success Center **Peer Tutoring** offers *free* help in math, physics and statistic courses to UT Dallas students currently enrolled in classes.

- Call to make an appointment at 972-883-6707
- Contact the Math Lab with questions or comments: mathlab@utdallas.edu

Assignments & Academic Calendar

IMPORTANT DATES AND HOLIDAYS

Census Day	Friday, June 9th
EXAM I	Monday, June 26th
Holiday	Tuesday, July 4th
Last Day to Withdraw	Friday, June 9th
EXAM II	Monday, July 17th
Last Day of Class	Monday, Aug 8th
FINAL EXAM	TBA

Grade Policy

Your final course percent will be determined based on the following weighting.

- **Digital Homework 15%**
- **Written (Graded) Homework 15%**
- **Quizzes 10%**
- **Exams (two): 15% of the lowest exam, 20% of the highest exam, Total of 35%**
- **Final Exam 25%**

There will be no make-ups.
Grading Scale:

[96.6, 100]	[93, 96.6)	[90, 93)	[86.6, 90)	[83, 86.6)	[80, 83)	[76.6, 80)
A+	A	A -	B+	B	B -	C+
[73, 76.6)	[70, 73)	[66.6, 70)	[63, 66.6)	[60, 63)	[0, 60)	
C	C -	D+	D	D -	F	

Course & Instructor Policies

Digital Homework: Digital Homework (DHW) is done and submitted via WebAssign and will be usually due on Mondays by 11:59 pm. There will be 10 DHW and worth 15% of your grade (the best 9 of the 10 scores will be counted).

Graded Homework: Graded Homework (GHW) will be posted and submitted after completion via eLearning. There will be 10 GHW and worth 15% of your grade (the best 9 of the 10 scores will be counted). These homework sets will be made available via eLearning, generally by Monday of the week before they are due (see schedule for due dates, these are indicated by GHW#). VERY IMPORTANT: Work is to be submitted through eLearning in **PDF format**, no exceptions. You do not need to print the GHW and may write the problems on your own paper; be sure to label and order the problems correctly. You will then need to scan your work and compile it into a PDF (consider using the apps CamScanner or AdobeScan) and submit it through the link provided on eLearning. PDFs created on tablets are also acceptable. Student FIRST and LAST NAME (printed and complete) should be clearly written. Your work is to be completed, written with proper mathematical notation, and logical flow. Presentation is valued at 25% of the possible points-be neat! Homework will not be accepted after the due date.

Quizzes: There will be 7 quizzes administered at the beginning of the class on Wednesday (all of them will be counted). They will constitute 10% of your course grade.

Exam: There will be two midterm exams and a comprehensive final exam. The lower midterm exam will count as 15% of your course grade, the higher of the midterm exams will counts as 20% of your course grade. The final exam will count as 25% of your grade. You will receive a zero for a missed exam.

Calculator: A scientific calculator is required and is permitted on exams and quizzes. Graphing calculators, programmable calculators, calculators with non-numeric displays, or calculators with calculus operations are NOT ALLOWED on quizzes or exams. Cell phones are NOT permitted on any exam or quiz.

Course Schedule (subject to change) This a is a tentative schedule.

Date	Topics
Week 1: 5/24	**Wednesday (05/24)** Syllabus, WebAssign 1.1 - 1.2, Functions, Function Notations, Domain and Range 2.1 - 2.2, Linear Functions, Graphs of Linear Functions
Week 2: 5/29 5/31	**Monday (05/29): DHW1, GHW1 due by 11:59 pm; Wednesday (05/31): Quiz 1** 1.6, Absolute Value Functions 1.3, Rate of Change and Behavior 1.4, Composition of Functions 1.5, Transformation of Function 1.7, Inverse Functions 3.1, Complex Numbers
Week 3: 6/05 6/07	**Monday (06/05): DHW2, GHW2 due by 11:59 pm; Wednesday (06/07): Quiz 2** 3.2, Quadratic Functions 3.3, Power Functions and Polynomial Functions 3.4, Graphs of Polynomial Functions 3.5, Dividing Polynomials 3.6, Zeros of Polynomial Functions
Week 4: 6/12 6/14	**Monday (06/12): DHW3, GHW3 due by 11:59 pm; Wednesday (06/14): Quiz 3** 3.7, Rational Functions 3.9 Modeling Using Variation 4.1, Exponential Functions 4.2, Graphs of Exponential Functions
Week 5: 6/19 6/21	**Monday (06/19): DHW4, GHW4 due by 11:59 pm; Wednesday (06/21): Quiz 4** 4.3, Logarithmic Functions 4.4, Graphs of Logarithmic Functions 4.5, Properties of Logarithms, 4.6, Exponential and Logarithmic Equations Review
Week 6: 6/26 6/28	**Monday (06/26): DHW5, GHW5 due by 11:59 pm, Monday (06/26): EXAM I** 5.1, Angles 5.2, The Unit Circle: Sine and Cosine Functions 5.3, The Other Trigonometric Functions of Any Angle 5.4, Right Triangle Trigonometry
Week 7: 7/03 7/05	**Monday (07/03): DHW6, GHW6 due by 11:59 pm; Wednesday (07/05): Quiz 5** 6.1, Graphs of the Sine and Cosine Functions 6.2, Graphs of the Other Trigonometric Functions 6.3, Inverse Trigonometric Functions 7.1, Solving Trigonometric Equations with Identities
Week 8: 7/10 7/12	**Monday (07/10): DHW7, GHW7, due by 11:59 pm; Wednesday (07/12): Quiz 6** 7.2, Sum and Different Identities 7.3, Double-Angle, Half-Angle, and Reduction Formulas 7.4, Sum-to-Product and Product-to-Sum Formulas 7.5, Solving Trigonometric Equations Review
Week 9: 7/17 7/19	**Monday (07/17): DHW8, GHW8 due by 11:59 pm, Monday (07/17): EXAM II** 8.1, Non-right Triangles: Law of Sines 8.2, None-right Triangles: Law of Cosines 8.3, Polar Coordinates 8.4, Polar Coordinates: Graphs
Week 10: 7/24 7/26	**Monday (07/24): DHW9, GHW9 due by 11:59 pm; Wednesday (07/26): Quiz 7** 8.8 Vectors 9.1, Linear and Nonlinear Systems of Equations

	9.2, Two-Variable Linear Systems 9.3, Systems of Nonlinear Equations and Inequalities
Week 11: 7/31 8/02	**Monday (08/02): DHW10, GHW10 due by 11:59 pm** 9.4 Partial Fractions 10.3 The Parabola 10.1 The Ellipse 10.2 The Hyperbola
Week 11: 8/07	**Monday (08/02); FINAL, TBA** Review

Technical Support

If you experience any problems with your UTD account you may send an email to: assist@utdallas.edu or call the UTD Computer Helpdesk at 972-883-2911.

Field Trip Policies
Off-campus Instruction and Course Activities

Off-campus, out-of-state, and foreign instruction and activities are subject to state law and University policies and procedures regarding travel and risk-related activities. Information regarding these rules and regulations may be found at the website address http://www.utdallas.edu/BusinessAffairs/Travel_Risk_Activities.htm. *Additional information is available from the office of the school dean. Below is a description of any travel and/or risk-related activity associated with this course.*

Student Conduct & Discipline

The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UTD printed publication, *A to Z Guide*, which is provided to all registered students each academic year.

The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the *Rules and Regulations, Series 50000, Board of Regents, The University of Texas System,* and in Title V, Rules on Student Services and Activities of the university's *Handbook of Operating Procedures*. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SU 1.602, 972/883-6391) and online at http://www.utdallas.edu/judicialaffairs/UTDJudicialAffairs-HOPV.html

A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.

Academic Integrity

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrates a high standard of individual honor in his or her scholastic work.

Scholastic Dishonesty, any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.

Copyright Notice

The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted materials, including music and software. Copying, displaying, reproducing, or distributing copyrighted works may infringe the copyright owner's rights and such infringement is subject to appropriate disciplinary action as well as criminal penalties provided by federal law. Usage of such material is only appropriate when that usage constitutes "fair use" under the Copyright Act. As a UT Dallas student, you are required to follow the institution's copyright policy (Policy Memorandum 84-I.3-46). For more information about the fair use exemption, see http://www.utsystem.edu/ogc/intellectualproperty/copypol2.htm

Email Use

The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individual corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.

Withdrawal from Class

The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.

Student Grievance Procedures

Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's *Handbook of Operating Procedures*.

In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the deal will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties.

Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.

Incomplete Grade Policy

As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of **F**.

Disability Services

The goal of Disability Services is to provide students with disabilities educational opportunities equal to those of their non-disabled peers.
The contact information for the Office of Disability Services is:
The University of Texas at Dallas, SU 22
PO Box 830688
Richardson, Texas 75083-0688
(972) 883-2098 (voice or TTY)
disabilityservice@utdallas.edu

If you anticipate issues related to the format or requirements of this course, please meet with the Coordinator of Disability Services. The Coordinator is available to discuss ways to ensure your full participation in the course. If you determine that formal, disability-related accommodations are necessary, it is very important that you be registered with Disability Services to notify them of your eligibility for reasonable accommodations. Disability Services can then plan how best to coordinate your accommodations.

It is the student's responsibility to notify his or her professors of the need for such an accommodation. Disability Services provides students with letters to present to faculty members to verify that the student has a disability and needs accommodations. Individuals requiring special accommodation should contact the professor after class or during office hours.

Religious Holy Days

The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.

The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment.

If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must consider the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.

These descriptions and timelines are subject to change at the discretion of the Professor.