Division of
Academic Enhancement
UNIVERSITY OF GEORGIA

UNIV 2900: Special Topics for Math 2250

(Special section for Math 2250 Students)

The deadline to attend this course October 24th, 2022, 5:00PM

Fall, 2022 section 46424

Course Instructor Information

Instructor: Dr. Xuechao Li
Office: Milledge Hall 253
Email: xcli@uga.edu
Student (Office) Hours: Tue 10:00-11:00AM&W 1:00-2:00PM or text me anytime weekdays
Cell phone: 706-389-0631

Course Meeting Information

Meetings: 11:30-12:20/MWF&12:45-14:35/T
Location: ZBM 0277 &Journalism507/T

UNIV Courses are offered by the Division of Academic Enhancement, a unit of the Office of Instruction at the University of Georgia. UGA's Division of Academic Enhancement empowers all students to **Learn *Differently*** through innovative courses, programs, services, and student-centered initiatives. The DAE supports students as they transition into higher education and sustains their progress through the University's unique academic environment.

Course Description

This class offers a general review of selected topics from pre-calculus together with problem-solving techniques to prepare students to be successful in Math 2250 (Calculus I). Topics include solving a variety of equations, function notation, describing the behavior of a function from its formula or graph, performing transformations on common graphs, performing operations on functions including composition, a review of specific types of functions and their properties, finding and simplifying a difference quotient, solving multiple step application problems, and an introduction to limits and piecewise functions. If time allows, we will review derivative of functions and related rates word-problems.

Student learning outcomes

At the end of the semester, a successful student will be able to:

1. Solve multiple types of equations using algebraic manipulation.
2. Review the graphs of the common functions and their transformations including the graphs of the three basic trigonometric functions (sine, cosine and tangent).
3. Use a function's graph to:
    a. Identify intervals where the function is increasing or decreasing
    b. Identify extrema
    c. Determine limits

d. Identify points of continuity/discontinuity
e. Identify asymptotes

4. Given a function determine its domain, x and y intercepts, asymptotes, and find its difference quotient.
5. Perform operations on functions including composition.
6. Have a good understanding of the graphs and properties of linear, quadratic, exponential, logarithmic, polynomial, and rational functions.
7. Set up solve multiple step application problems and rewrite a function in terms of one variable given a constraint.
8. Find derivative of given functions and be able to solve relevant application problems

Students will be evaluated in the following areas:

Assignments
Homework will be graded on a participation level: 10%

Quizzes:
Quizzes will be given on Tuesdays weekly with several questions chosen from homework assignment, quiz average will count for 20% of your overall average.

Tests:
Chapter Tests: **No-*Make-Ups***. There will be **tour** tests that you will take during this semester. Your chapter tests are worth a total **40%** of your course grade. The final exam may be used to substitute *ONE* missing chapter test in the event of an excused emergency absence. An excused emergency absence will only be granted when you have notified me of the illness/emergency prior to the class meeting on the test day, and with a document excuse presented to me later. The exact dates of the tests will be announced in class. Note that if you miss two tests in this course after you enroll in, so your score earned from third and fourth tests taken in UNIV 2900 will be kept for your grade.

Final Exam:
Your final exam, which will be discussed later in the course, will count for 30% of your overall grade.

Grading/Evaluation
92-100 = A, 89-91=A-, 86-88=B+, 83-85=B, 79-82=B-, 76-78=C+,73-75=C,69-72=C-, 60-68=D,0-59=F.

Course Materials
For this course you will need to access the free e-books using the links below. We will use the e-book to assign homework problems so that you may practice the concepts covered in class.

https://openstax.org/details/books/college-algebra

https://openstax.org/details/books/calculus-volume-1 (this is the same textbook used for Math 2250)

http://tutorial.math.lamar.edu/Problems/CalcI/CalcI.aspx

The required calculator for this section is the TI-30XS Multiview (same as for Math 2250). You may use a TI-83 or TI-84 for my course but be aware that when you take Math 2250 you will only be able to use the TI-30XS Multiview so it may benefit you to stick to that calculator for this course as well.

Important dates:
Holiday: Labor day, Sep. 5th
Midterm: Oct. 10th
Withdraw deadline: Oct. 24th
Catapult Deadline: Oct. 24th
Fall Break: Oct. 28th
Thanksgiving break: Nov.23th-25th
Class End: Dec. 6th.

Course Policies
Please be considerate of the students around you and do not use your technology for anything non-course related during class time. Checking text messages or email or working on other assignments during class is very distractive to your fellow classmates.

Participation Policy
Since this is a math class that will build upon itself on a daily basis, you are strongly encouraged to attend all meetings. If you have to miss a class of test please let me know as soon as possible so that I can get you any missed handouts or arrange for a makeup test time.

In the event that the university cancels classes, such as for severe weather, students are expected to continue with readings as originally scheduled. Any assignments scheduled during those missed classes, such as a project or paper, are due at the next class meeting unless other instructions are posted at the course website or communicated via email.

FERPA Notice
The Federal Family Educational Rights and Privacy Act (FERPA) grants students certain information privacy rights. See the registrar's explanation at http://apps.reg.uga.edu/FERPA/

Course Evaluations
I encourage you to complete the online evaluation near the end of the semester. Student evaluations of teaching are used by university administrators to evaluate instructional faculty. I also take your feedback seriously; note that it is delivered anonymously and is not visible to me until after I have submitted all final course grades.

Office of Student Care and Outreach
If you have a personal crisis during the semester, you will want to contact the Office of Student Care and Outreach so that they can support you: http://sco.uga.edu/sco/services-students

Other Division Resources
From peer tutoring through the Academic Resource Center to Academic Coaching to Student Success Workshops and more, the Division is committed to the success of all students at the University of Georgia. For more on these and other resources, visit https://dae.uga.edu.

Disability Statement

If you anticipate issues related to the format or requirements of this course, please meet with me. I would like us 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 the Disability Resource Center (Voice: 706-542-8719 or TTY: 706-542-8778) and notify me of your eligibility for reasonable accommodations. We can then plan how best to coordinate your accommodations.

Academic Honesty Policy

As a University of Georgia student, you have agreed to abide by the University's academic honesty policy, "A Culture of Honesty," and the Student Honor Code. All academic work must meet the standards described in "A Culture of Honesty" found at: https://ovpi.uga.edu/academic-honesty/academic-honesty-policy. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Questions related to course assignments and the academic honesty policy should be directed to the instructor.

Grade Appeal Process

University of Georgia students have the right to appeal academic decisions. The burden of proof for an appeal rests with the student. The policies governing the process of appealing grades are covered in the Academic Affairs Policy Manual, General Academic Policy: Student Appeals (Section 4.05-01). All grade appeals must be initiated in writing to the instructor within one calendar year from the end of the term in which the grade was recorded. The process for appealing a grade in a UNIV course can be found at: https://dae.uga.edu/courses/appeal-process/.

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Course Outline:
The schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better student learning.

Week	General Topic	Assignment
1	Syllabus, review of algebra: laws for exponents and solving equations	
2	More on solving equations and using a constraint to remove a variable	Practice sheet
3	Describing the properties of a function using its graph: domain, range , increasing, decreasing, prepare for test 1	Practice sheet
4	Finding function values from the equation Test 1 and feedback	Review practice
5	Drawing the common graphs with transformations, domain, range, piecewise functions	Practice sheets from pre-cal T1
6	Operations on functions and finding inverse functions, even, odd functions	Practice sheets from pre-cal T1
7	Linear and quadratic functions and applications.	Practice sheets from pre-cal T2
8	Polynomial and Rational functions, review for test 2. Test 2 and feedback	Review for T2
9	Exponential and logarithmic functions, application and solve real life problems	Practice sheet from Pre-cal T3
10	Finding derivative by its function definition. Polynomial, fractional and radical functions.	HW 3.1-3.2
11	Find derivatives by formulas, apply rules and chain rule	HW 3.2-3.4
12	Implicit differentiation Test 3 and feedback	Review sheets
13	Application of implicit differentiation	HW 4.1
14	Related rate introduction	HW 4.2
15	Review and test 4 and feedback	Review sheet for Test 4
16	Review for the final	

Note: The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.