Math 1421
Spring 2016
Section 150

Instructor: Dr. Backs

Office: PKH 448

Email: kbacks@uta.edu

Class Time: MWF 1-1:50 pm

Classroom: PKH 321

Office Hours: MWF 12-1 pm

Textbook (Required): Precalculus eText with MyMathLab and Explorations and Notes -- Access Card Package by Eric Schulz, William L. Briggs, & Lyle L. Cochran.

Course Materials (Required):
ScanTron (form **SC882-E**)
Calculators: TI-30XA or TI-30XIIS

Course Materials (Optional):
Graph Paper

Course Prerequisite: A grade of C or above in Math 1302 or a minimum score on the Math Placement Test.

Learning Outcomes:

Upon completion of Math 1421:

1. Students will be able to justify and explain their steps in problem solving. In particular, students will be able to construct correct and detailed mathematical arguments to justify their solutions to problems.
2. Students will demonstrate facility with expressing, applying, and combining functions in tabular, graphical, and symbolic forms.
3. Students will be able to identify and analyze the unifying characteristics of functions and their graphs including invariant properties under function transformations, domain and range, asymptotes, zeroes, and end behavior.
4. Students will be able to interpret and define the six trigonometric functions, in terms of both right triangles and the unit circle. They will be able to graph trigonometric and inverse trigonometric functions, without the aid of a graphing calculator, by applying the concepts of amplitude, periods and phase shifts. Students will also be able to verify and use trigonometric identities and formulas and to apply them to solve trigonometric equations and word problems, including problems that require solving a triangle.

Grading Scale:

Score Range	Letter Grade
100-90	A
89-80	B
79-70	C
69-60	D
<60	F

Grade Component	Percentage	Date
Midterm I	20%	Friday, September 23, 6-8 pm
Midterm II	25%	Friday, October 28, 6-8 pm
Final Exam	35%	Saturday, December 10, 12:30-3 pm
Lab/Quizzes	10%	N/A
Homework	8%	N/A
Skills Review	2%	N/A

All students in Math 1421 must pass the *Calculus Gateway Exam* on or before Friday, December 9 in order to receive a grade above D in the course. See details under *Calculus Gateway Exam* below.

Exam Location: Note that the location of exams will be announced prior to the exam date. The location will, most likely, **NOT be in our classroom**.

Homework will be completed online using MyLabsPlus. **No late homework** will be accepted for any reason. The three lowest homework grades will be dropped at the end of the semester.

Quizzes will be given during the first lab session each week. These in-class quizzes will count for 5% of your grade and will be administered during the last 10-15 minutes of class. Students who are not present when the quiz is handed out will not be allowed to take the quiz and will receive a zero. The one (1) lowest in-class quiz grade will be dropped.

Skills Review: Over the course of the semester you will be assigned a series of skills reviews to work on through MyLabsPlus. You must complete all of them over the course of the semester and you may continue to attempt the assignments until you have mastered the material. You may not attempt the next skills review until you have mastered (80%) the previous one. These skills reviews will help solidify skills you will use frequently in calculus (and have seen in Math 1302), but will not be directly discussed in Math 1421.

Calculators: The only calculators allowed for quizzes, midterms, and the final are TI-30XA and TI-30XIIS. You may not use a cellphone as a calculator on exams.

Attendance Policy: At The University of Texas at Arlington, taking attendance is not required. Rather, each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, **I will not take daily attendance during lecture sessions, but attendance will be tracked in the lab sessions.**

Electronics Policy: Students may not use electronics during course meetings without prior consent from the instructor (unless the instructor is using technology to poll the entire class). This includes (but is not limited to): cell phones, tablets, laptop computers.

Midterms and Finals: These exams are departmental, i.e., all sections of Math 1421 will take the same exam and the grades will have the same weight in each section. All of these exams are comprehensive. Each exam will be a mix of multiple choice problems and show-your-work problems. *You must bring a photo ID to each exam; failure to do so may result in you not being admitted to the exam or your exam not being graded.*
Students may bring one 3"x5" note card to use as a formula sheet on the final exam. Formula sheets are **not allowed** on the midterms.

Make-up Policy: All makeup exams are scheduled through your instructor and must be requested by Census Date (September 12). If you know that you have a conflict with one of the dates listed above you must contact your instructor, in writing, before this date. It is up to the instructor whether or not to grant a makeup exam.

Makeup exams will not be granted after the fact; that is, requesting a makeup after Census Date will result in a denial of makeup unless substantiation of an emergency (i.e. hospital records, etc.) is provided.

Students absent for religious holidays or University events must give notice to the instructor at least 7 days before the absence; substantiation may be requested.

No makeup quizzes, labs, or homework will be allowed.

Calculus Gateway Exam: All students in Math 1421 must pass the Calculus Gateway Exam on or before the last class day in order to receive a grade above D in the course. The Calculus Gateway Exam (CGE) will become available under the "lab" link in MyLabsPlus on November 7. The CGE can be taken anytime during the eligible time period between November 7 and December 9. Students are allowed up to 3 attempts on the CGE, however these attempts can only be used during the eligible time period. The CGE is to be taken outside of class and is subject to University rules on academic dishonesty. You are allowed to use a non-graphing calculator on the CGE, but you may not receive help from any source. Receiving or providing assistance on the CGE will be subject to discipline for academic dishonesty. It is the philosophy of The University of Texas at Arlington that academic

dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. Discipline may include suspension or expulsion from the University.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance**. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (http://wweb.uta.edu/aao/fao/).

Drop Date: Wednesday, November 2 by 4 pm.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at http://www.uta.edu/oit/cs/email/mavmail.php.

START STRONG Freshman Tutoring Program

University Tutorial and Supplemental Instruction (UTSI)/University College
All first time freshmen can receive five FREE hours of tutoring for this course and other selected subjects for this semester. **Students must sign up and complete their first hour of tutoring by September 23, 2016.** To sign up, visit UTSI in 205 Ransom Hall/University College. Upon completion of your first tutoring appointment, you will receive five hours of additional free tutoring. Flexible tutoring hours are available from 7:00am – 9:00pm, seven days a week at secure locations on campus. All tutors receive extensive training. Find out more at www.uta.edu/Startstrong

The Math Department operates the **Math Clinic**, a free tutoring service staffed by upper level undergraduate students. The Math Clinic is on the 3rd floor of Pickard Hall; the phone number is 817-272-5674; and the hours of operation for fall and spring are

Monday – Thursday	8 am – 9 pm
Friday	8 am – 1 pm
Saturday	1 pm – 6 pm
Sunday	1 pm – 9 pm

Go to the Math Clinic webpage http://www.uta.edu/math/clinic/ to get more information or to access assignment sheets for the courses for which tutoring is offered.

Americans with Disabilities Act: The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the *Americans with*

Disabilities Act (ADA). All instructors at UT Arlington are required by law to provide **"reasonable accommodations"** to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364 Student responsibility primarily rests with **informing faculty at the beginning of the semester and in providing *authorized* documentation through designated administrative channels.**

If you require an accommodation based on disability, I would like to meet with you in the privacy of my office, during the first week of the semester, to make sure you are appropriately accommodated.

Counseling and Psychological Services, (CAPS) www.uta.edu/caps/ or calling 817-272-3671 is also available to all students to help increase their understanding of personal issues, address mental and behavioral health problems and make positive changes in their lives.

Non-Discrimination Policy: *The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit uta.edu/eos. For information regarding Title IX, visit* www.uta.edu/titleIX.

Title IX Policy: The University of Texas at Arlington ("University") is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated. *For information regarding Title IX, visit* www.uta.edu/titleIX or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or jmhood@uta.edu.

Academic Dishonesty: Students enrolled in this course are expected to adhere to the UT Arlington Honor Code:

> *I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.*
>
> *I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code)

will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

Grade Replacement and Grade Exclusion Policies: These policies are described in detail in the University catalog and can also be founded online at
http://wweb.uta.edu/catalog/content/general/academic_regulations.aspx#10
(Scroll about half way down the page).

Student Disruption: The University reserves the right to impose disciplinary action for an infraction of University policies. For example, engagement in conduct, alone or with others, intended to obstruct, disrupt, or interfere with, or which in fact obstructs, disrupts, or interferes with, any function or activity sponsored, authorized by or participated in by the University.

Campus Carry: Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit http://www.uta.edu/news/info/campus-carry/

Student Feedback Survey: At the end of each term, students enrolled in face-to-face and online classes categorized as "lecture," "seminar," or "laboratory" are directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback via the SFS database is aggregated with that of other students enrolled in the course. Students' anonymity will be protected to the extent that the law allows. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law and aggregate results are posted online. Data from SFS is also used for faculty and program evaluations. For more information, visit http://www.uta.edu/sfs.

Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room exit the room and take an immediate right or left, walk down the hallway toward the corner of the building and descend the stairs. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

Students are encouraged to subscribe to the MavAlert system that will send information in case of an emergency to their cell phones or email accounts. Anyone can subscribe at https://mavalert.uta.edu/ or https://mavalert.uta.edu/register.php

Student Support Services: [Required for all undergraduate courses] UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at http://www.uta.edu/universitycollege/resources/index.php.

The IDEAS Center (2nd Floor of Central Library) offers **free** tutoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. To schedule an appointment with a peer tutor or mentor email IDEAS@uta.edu or call (817) 272-6593.

Course Schedule:

Date	Topic Covered in Textbook
8/26	1.1 What is a Function?
8/29	1.2 Graphs
8/31	1.3 Linear Functions
9/2	1.4 Combinations of Functions
9/7	1.5 Transformations of Functions
9/9	1.6 Quadratic Functions
9/12	1.7 Families of Functions
9/14	2.1 Polynomial Functions
9/16	2.2 Real Roots and Factors of Polynomial Functions
9/19	2.5 Rational Functions
9/21	2.6 Inequalities
9/23	3.1 Exponential Functions / **Midterm I, 6 – 8 pm**
9/26	3.2 Inverse Functions
9/28	3.3 Logarithmic Functions
9/30	3.3 / 3.4 Logarithmic Identities
10/3	3.4
10/5	3.5 Solving Exponential and Logarithmic Equations
10/7	3.5 / 4.1 Angles and Their Measures
10/10	4.1
10/12	4.2 Unit Circle Definitions of Sine, Cosine, and Tangent
10/14	4.2 / 4.3 Sine, Cosine, and Tangent Functions
10/17	4.3
10/19	4.4 Secant, Cosecant, and Cotangent Functions
10/21	4.4 / 5.1 Right Triangle Trigonometry

10/24	5.1 / 5.2 Right Triangles and The Unit Circle
10/26	5.2
10/28	4.5 Inverse Trig Functions / **Midterm II, 6 – 8 pm**

10/31	4.5 Inverse Trigonometric Functions
11/2	5.3 Law of Sines
11/4	5.3 / 5.4 Law of Cosines
11/7	5.4
11/9	5.5 Applications of Triangles
11/11	5.5 / 6.1 Fundamental Identities
11/14	6.1
11/16	6.2 Sum, Difference, and Double-Angle Identities
11/18	6.2 / 6.3 Power-Reducing, Half-Angle, and Product-Sum Identities
11/21	6.3
11/23	6.4 Solving Trigonometric Equations
11/28	6.4 / 7.1 Parametric Equations
11/30	7.1
12/2	7.2 Polar Coordinates
12/5	7.2 / 7.3 Polar Graphs
12/7	7.3
12/9	Review
12/10	**Final Exam**

"As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course." – Dr. Karl Backs.

Drop for Non-Payment of Tuition: If you are dropped from this class for non-payment of tuition, you may secure an Enrollment Loan through the Bursar's Office.

Important Dates

August 25 (Thursday)	First Day of Classes
September 12 (Monday)	Census Date
September 23 (Friday)	**Midterm I, 6-8 pm**
October 28 (Friday)	**Midterm II, 6-8 pm**
November 2 (Wednesday)	Drop Date – by 4 pm
December 10 (Saturday)	**Final Exam, 12:30 pm**