Math 1301 – Contemporary Mathematics Section 500

Course Instructor

Jeremy Glass
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Faculty Profile: https://www.uta.edu/profiles/jeremy-glass
The instructor will respond to email inquiries within 24-48 hours.
Office Hours: See Live Webcast/Office Hour Schedule

Mathematics Learning Resource Centers

Email: mathLRC@uta.edu
Computer Lab Website: http://www.uta.edu/math/LRC/
Clinic Website: http://www.uta.edu/math/clinic/
Facebook: https://www.facebook.com/UTA-Learning-Resource-Center-460329394127443/

Math Department Office

Pickard Hall 478
Phone: 817-272-3261

Textbook and Materials

This course is part of the UTA Mathematics Department Affordability Campaign, making state-of-the-art online mathematics instruction, practice and review available to our students at a lower price than purchasing the components separately elsewhere. To receive the discounted price, items must be purchased through the UTA Bookstore using the following site: http://bit.ly/2tQ090S

1. **Digital Access and eText Bundle (Required Course Materials)**: We have negotiated a reduced price bundle which includes long-term access to the e-version of the course text as well as MyLabsPlus course access which provides instant feedback for your assignments plus a personalized study plan, multimedia library, practice tests and more. When classes begin, you will have immediate access to your MyLabsPlus course even before you make your purchase. However, if the purchase is not verified within the first 10 days after the start of the semester, the access to your course will freeze and your account will stay deactivated until the purchase is confirmed. During the purchasing process, please ensure you enter your name as shown on your UTA records along with your MAVS email address for proper processing.
2. **Loose-leaf Textbook (Optional)**: You may choose to upgrade your purchase and add a loose-leaf textbook at minimal cost. The textbook will be shipped directly to an address of your choosing or you may pick one up at the UTA bookstore. Full purchase details will be available in Blackboard. *A Survey of Mathematics with Applications*, 10th national edition, Angel, Abbott, and Runde, Pearson Ed. Inc., 2016.
3. **Scientific Calculator**: You may use a scientific calculator. See the Calculator Policy section for allowable models.

Calculator Policy

Students may choose to use a scientific, non-graphing calculator on all assignments including unit exams and the final exam. If so, it MUST be one of the following models explicitly:

Texas Instruments 30X series: TI-30Xa, TI-30XIIS, TI-30XIIB, TI-30XS(Multiview)
Casio FX series: FX-82MS, FX-85M-S, FX-260SLR, FX-260SLRPK, FX-260SLRSCH
Sharp EL series: EL-501X, EL-501XBGR, EL-501XBWH, EL-531X, EL-531XBGR, EL-531XBWH
Canon F series: F-604, F-710

No variation of model will be accepted. This includes but is not limited to plus and pro models.

Software and System Requirements

Mozilla Firefox and Google Chrome are the recommended and supported browsers for this course. The course also has the following options for system requirements:

- Windows 7.0 or higher
- Mac OS x 10.8 or higher

Students are encouraged to use the Browser Check on the initial page within the MLP system in order to check and/or update (free download) the following software requirements:

- Adobe Flash Player version 11.9 or higher
- Adobe Reader version XI or higher

Course Elements

Course Lectures and Webcasts

Content material, videos, and instructions can be found in the unit tabs within Blackboard. The course is separated into 3 units of material which will correspond to the 3 unit exams. Within each unit there are blocks with specific details and assignment requirements. Preparation will take place within Blackboard and all graded assignments are found within the MLP system.

You will have weekly webcasts with your course instructor. See Webcast/Office Hours Schedule for details and times. You will access the webcasts through the live webcasts tab within Blackboard. Participation in the live webcasts is strongly encouraged.

Attendance Policy

At The University of Texas at Arlington, taking attendance is not required but attendance is a critical indicator in student success. 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 have adopted the following attendance policy. Due to the nature of online courses, any participation in live webcasts (optional), and/or regular completion of online assignments and exams will be considered your attendance record. Students are expected to check email regularly and participate in discussions/activities. However, while UT Arlington does not require instructors to take attendance in their courses, the U.S. Department of Education requires that the University have a

mechanism in place to mark when Federal Student Aid recipients "begin attendance in a course." UT Arlington instructors will report when students begin attendance in a course as part of the final grading process. Specifically, when assigning a student a grade of F, faculty report the last date a student attended their class based on evidence such as a test, participation in a class project or presentation, or an engagement online via Blackboard. This date is reported to the Department of Education for federal financial aid recipients.

Schedule of Lessons and Exams

You must complete all assignments and exams by the due dates. Due dates are listed in **MyLabsPlus (MLP)** and also in the Course Schedule located in Blackboard. **All MLP deadline times are in Central Time**.

Grade Calculation

Homework, Quizzes, Exams	Percent of Grade
Homework/Quizzes	20%
Unit Exams (Average of 3 Exams)	50%
Signature Assignment Write-Up	5%
Comprehensive Final Exam	25%
Total:	100%

- Two of the lowest homework grades and one quiz grade will be dropped at the end of the semester.
- In the event you are not satisfied with one of your three unit exam scores, you may ask your instructor for a retake. Only ONE retake on a unit exam of your choosing will be granted. Please reference the course schedule for specific retake dates. You MUST solicit and receive approval from your instructor prior to taking your ONE retake exam. All retakes must be completed prior to the final exam.

Grading Scale

Grades will be computed based on the following distribution. Grades are rounded up accordingly.

90 — 100%	A
80 — 89%	B
70 — 79%	C
60 — 69%	D
Below 60%	F

Homework and Quizzes

All homework and quizzes will be assigned in MyLabsPlus. (www.uta.mylabsplus.com) All homework and quiz assignments are available to you on the first class day. The automated system will provide feedback on assignments immediately upon submission.

- **NO late homework or quizzes will be accepted,** so watch the due dates on the MyLabsPlus calendar. You will receive a zero for any assignments not submitted.
- There is a homework assignment covering each section of material and there are 7 total quizzes consisting of 1 syllabus quiz and 6 content quizzes. Homework assignments are set for unlimited access up until the due date and you have 3 attempts per question, however you only have 2

attempts at each quiz which have a 45 minute time limit and must be completed once opened. Quizzes cannot be saved and resumed later.

- All homework assignments contain learning aids to help you through the material. Be careful not to become overly dependent on these aids or you may not perform well on the exams. You have three chances at a question per attempt. To gain access to the next attempt once a question is marked wrong; simply select the "similar exercise" button at the bottom of the homework screen. Quizzes are designed to check your knowledge retention and therefore do not contain the learning aids except in review mode once the quiz has been submitted.
- If you have trouble completing the assignments, please seek some form of tutoring and/or see your instructor or coach for assistance.

Exams

There will be three online proctored unit exams throughout the course of the semester. (Please reference the course schedule for exact dates.)

- All unit exams are found within MLP and are comprised of questions that must be completed within 60 consecutive minutes. Exams cannot be opened, saved, and returned to at a later time. Exams are opened a few days prior to the deadlines.
- You may use an approved scientific calculator (no cell phones), the approved formula pages without any other markings, and blank scratch paper. No additional materials are allowed.
- The approved formula pages will be posted to Blackboard.
- All exams are either taken in the Math Computer Lab (PKH 308) on the UTA campus by appointment only or by making arrangements for online proctoring with Proctor U which requires prior scheduling and a webcam. Students are solely responsible for their own scheduling and the fees associated with using the service. See tab in Blackboard called Testing/Proctor U for details.
- Use of any unauthorized electronic devices or notes during an exam will result in a grade of ZERO.

Final Exam

The final exam is a comprehensive, proctored exam containing material from all sections covered over the course of the semester. (Please reference the course schedule for exact dates.)

- The final is found within MLP and is comprised of questions that must be completed within 150 consecutive minutes. The final cannot be opened, saved, and returned to at a later time. It will be opened a few days prior to the deadline.
- You may use an approved scientific calculator (no cell phones), the approved formula pages without any other markings, and blank scratch paper. No additional materials are allowed.
- The final exam can either be taken in the Math Computer Lab (PKH 308) on the UTA campus by appointment only or by making arrangements for online proctoring with Proctor U which requires prior scheduling and a webcam. Students are solely responsible for their own scheduling and the fees associated with using the service. See tab in Blackboard called Testing/Proctor U for details.
- Use of any unauthorized electronic devices or notes during an exam will result in a grade of ZERO.

Challenge Problems and Signature Assignment (Write-Up)

This course contains a related concept homework assignment containing advanced questions. This assignment will cover the seven learning objectives and outcomes listed in the course objective section of your syllabus. This assignment will count as bonus points on unit exams based on the percentage score earned on the assignment. No more than 5 points can be earned on any given exam. Extra credit will be applied at the end of the semester and cannot apply to the final exam. Completion of the Challenge Problem assignment is optional, but will aid in the Write-Up process. The assignment will assess the following skills:

- Critical Thinking Skills - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
- Communication Skills - to include effective development, interpretation and expression of ideas through written, oral and visual communication.
- Empirical and Quantitative Skills - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

Before the end of the semester, you will be required to choose one of the advanced questions from within the Challenge Problem assignment and complete a Write-Up assignment. This Signature Write-Up assignment will consist of a one-page essay describing the necessary skills and the process for accurately completing the chosen question. Specific emphasis will be placed on your ability to draw conclusions and effectively communicate your method. Additional details will be provided within Blackboard.

Makeup Policy

In addition to the policy that NO late homework or quizzes will be accepted (see Homework and Quizzes), **there are no make-up exams.** If you know ahead of time that you are going to be out for a legitimate reason, it is your responsibility to inform me and make the necessary arrangements. If you have a conflict with a scheduled exam due to a school sponsored or excused event, you MUST have documentation and you MUST arrange to take the exam BEFORE you leave. To request an alternate exam date because of an approved conflict, please fill out the Alternate Exam Date Request Form which can be found in Blackboard and email the form along with the necessary documentation at least two weeks prior to the first exam. A request for a rescheduled exam will only be considered in rare, documentable, and verifiable instances. The decision to grant an alternate exam date will be at the sole discretion of the instructor and/or course coordinator.

Announcements: Found in *MyLabsPlus* and in *Blackboard*.

- Students are responsible for all information found in these announcements.
- Students should check for new announcements at least twice a week.

Help for Students

- Online Coach – information is found within a tab in your Blackboard course.
- E-Tutoring offers live online tutoring via eChat, offline questions and an online writing lab. More information is found within a tab in your Blackboard course.

- Face to Face Tutoring through the UTA Math Learning Resource Center. Free daily tutoring is offered in the Math Computer Lab – Pickard Hall (PKH) room 308 http://www.uta.edu/math/LRC/ and the Math Clinic – Pickard Hall (PKH) room 325 http://www.uta.edu/math/clinic/
- IDEAS Center offers on-campus and online tutoring for transfer students, veterans, sophomores, and students re-entering school after a break http://www.uta.edu/ideas/
- University Tutoring Service http://www.uta.edu/universitycollege/current/academic-support/learning-center/tutoring/index.php Ransom Hall Suite 205.
- Maverick Resource Hotline (817-272-6107). https://www.uta.edu/universitycollege/resources/resource-hotline.php
- Counseling and Psychological Services (CAPS) https://www.uta.edu/caps/
- Additional Online Course Help: https://www.khanacademy.org/

Course Objectives

Course Catalog Description

This course covers material in a traditional algebra course together with real-world applications of mathematics. It develops problem-solving and critical thinking skills. Topics include the mathematics of dimensional analysis, mathematical logic, population growth, optimization, voting theory, number theory, graph theory, relations, functions, probability, statistics, and finance. The use of mathematical software and calculators is required.

Learning Objectives and Outcomes

After completing the course, students should be able to demonstrate the following competencies:

1.0 Students will be able to demonstrate problem solving and critical thinking skills using inductive and deductive reasoning.
2.0 Students will be able to demonstrate logical thought using sets, logic statements, truth tables and number theory.
3.0 Students will be able to recognize and apply algebraic relations, functions and graphs.
4.0 Students will be able to evaluate applications containing metric system units and perform unit conversions.
5.0 Students will be able to evaluate applications involving consumer and finance mathematics.
6.0 Students will be able to demonstrate and apply knowledge of probability and statistics.
7.0 Students will be able to demonstrate and apply knowledge in applications involving voting and apportionment methods.

Course Competencies

1.0 To demonstrate competency in problem solving and critical thinking, a student should be able to:
- 1.1 Identify and use inductive and deductive reasoning to reach conclusions.
- 1.2 Use approximation/estimation to determine reasonableness of results.
- 1.3 Organize and use information in word problems to solve them.
- 1.4 Interpret bar and line graphs, pie charts and tables.
- 1.5 Use set notation to describe and list various types of sets.
- 1.6 Recognize equivalent sets and equal sets and the null set.
- 1.7 Determine the cardinal number of a set.
- 1.8 Identify and describe subsets and determine numbers of distinct subsets.
- 1.9 Use Venn Diagrams to illustrate relationships among sets and to demonstrate survey results.
- 1.10 Determine unions and intersections, complements of sets.

1.11 Use number theory to determine divisibility rules.

2.0 To demonstrate competency in logical thought, a student should be able to:
- 2.1 Interpret and express statements in symbolic form.
- 2.2 Express negations of statements.
- 2.3 Determine truth values of statements.
- 2.4 Interpret and use connectors to express compound statements.
- 2.5 Construct truth tables.
- 2.6 Determine logical equivalence of statements.

3.0 To demonstrate competency in algebraic relations, functions and graphs, a student should be able to:
- 3.1 Use order of operations.
- 3.2 Evaluate formulas and solve for specified variables.
- 3.3 Identify algebraic relations and functions.
- 3.4 Solve and apply linear equations.
- 3.5 Solve and apply linear inequalities.
- 3.6 Solve and apply quadratic equations.
- 3.7 Graph linear, quadratic and exponential equations.

4.0 To demonstrate competency in the metric system and unit conversions, a student should be able to:
- 4.1 Use metric units and do conversions within the metric system.
- 4.2 Determine length, area, volume, mass and temperature in the metric system.
- 4.3 Use dimensional analysis to convert units to and from the metric system.

5.0 To demonstrate competency in consumer and finance mathematics, a student should be able to:
- 5.1 Use percents, fractions, and decimals.
- 5.2 Calculate percent increases and decreases.
- 5.3 Calculate simple interest.
- 5.4 Calculate compound interest.
- 5.5 Determine present value.
- 5.6 Calculate payments, interest on amortized loans.
- 5.7 Calculate future value, payments, and interest on annuities.

6.0 To demonstrate competency in probability and statistics, a student should be able to:
- 6.1 Identify and calculate empirical probability.
- 6.2 Identify and calculate theoretical probability.
- 6.3 Determine odds against and in favor of an event.
- 6.4 Create, interpret, and apply frequency distributions and statistical graphs.
- 6.5 Calculate and interpret common measures of central tendency such as mean, median, mode and mid-range.

7.0 To demonstrate competency in voting and apportionment methods, a student should be able to:
- 7.1 Construct and use preference tables.
- 7.2 Identify and use:
  - 7.2.1 the Plurality voting method,
  - 7.2.2 the Borda Count voting method,
  - 7.2.3 the Plurality with Elimination voting method,
  - 7.2.4 the Pairwise Comparison voting method.
- 7.3 Identify the flaws in voting methods.
- 7.4 Identify and use:
  - 7.4.1 Hamilton's Apportionment method,
  - 7.4.2 Jefferson's Apportionment method,
  - 7.4.3 Webster's Apportionment method,
  - 7.4.4 Adams's Apportionment method.

7.5 Identify the flaws in apportionment methods.

Course Policies

Drop Policy

If you withdraw from the course for any reason, you must follow University procedures. It is your responsibility to execute these procedures correctly and within the deadlines. **Instructors are unable to drop students**. The Math Department Office can help with the withdrawal process. We strongly recommend that you drop the course if you are significantly behind in completing the required assignments. 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).

Disabilities Accommodations

UT 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), The Americans with Disabilities Amendments Act (ADAAA),* and *Section 504 of the Rehabilitation Act.* 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 disability. Students are responsible for providing the instructor with official notification in the form of **a letter certified** by the Office for Students with Disabilities (OSD). Only those students who have officially documented a need for an accommodation will have their request honored. Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting: **The Office for Students with Disabilities, (OSD)** www.uta.edu/disability or calling 817-272-3364. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability.

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.

Grade Grievances

Any appeal of a grade in this course must follow the procedures and deadlines for grade-related grievances as published in the current University Catalog. For undergraduate courses including this one, see http://catalog.uta.edu/academicregulations/grades/#undergraduatetext. For student complaints, see http://www.uta.edu/deanofstudents/student-complaints/index.php.

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.

Title IX

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 Integrity

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. This course includes a zero tolerance policy for academic dishonesty and students 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 in their courses by 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. Additional information is available at https://www.uta.edu/conduct/. **Students found guilty of cheating will receive a grade of "F" for the course.**

> *"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." (Regents' Rules and Regulations, Series 50101, Section 2.2)*

Student Support Services

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 Library's 2nd floor Academic Plaza offers students a central hub of support services, including IDEAS Center, University Advising Services, Transfer UTA and various college/school advising hours. Services are available during the library's hours of operation. http://library.uta.edu/academic-plaza.

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.

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.

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 classes categorized as "lecture," "seminar," or "laboratory" shall be 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 enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. 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 Phone Numbers

In case of an on-campus emergency, call the UT Arlington Police Department at **817-272-3003** (non-campus phone), **2-3003** (campus phone). You may also dial 911. We further recommend that you enter the UTA Police Department's emergency phone number into your own mobile phone. For non-emergencies, contact the UTA PD at 817-272-3381.

Student Intellectual Property Rights Statement

A student shall retain all rights to work created as part of instruction or using university technology resources.