Math 1301 – Contemporary Mathematics Section 002

Course Instructor

Ian Lim
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The instructor will respond to email inquiries within 24-48 hours.
Faculty Profile: https://mentis.uta.edu/explore/profile/ian-lim
Office: PKH 417
Office Hours: Tuesday and Thursday 9:30 am – 10:30 am

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. **E-text and Direct Access (Required)**: Your course materials include the e-version of the course text as well as MyLab course access which is designed to enrich student success by providing instant feedback on your assignments plus on-demand access to personalized study plans, a multimedia library, practice tests, and more. The e-texts may be downloaded on multiple devices with long-term access for each student. Every student has trial access to MyLab course materials as soon as the course is available in Canvas. So you can start working on your course even before you purchase the course materials! That said, students will need a verified purchase within the first 10 days of classes, otherwise, the access to your digital materials 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. **Workbook (Required):** Guided notetaking and example problems to support your time spent in class. *Contemporary Mathematics Workbook*, 1st edition, Banda, Allen, and Hawkins, Van-Griner Publishing, 2018. ISBN: 978-1-61740-595-2

3. **Web-Enabled Device**: Use your smartphone, tablet, laptop, or other device to check-in at lectures for required attendance and to take in-class quizzes and earn points toward extra credit on your final exam.
4. **3"x5" Index Cards:** In the event of a UTA Network disconnection during lecture, index cards may be used as a back-up for the web-enabled device.
5. **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-300MS, FX-82MS, FX-85MS, FX-260SOLAR, FX-260SOLAR II
Sharp EL series: EL-501X, EL-531X
Canon F series: F-605, F-604, F-730SX, F-710

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

Course Elements

Scheduled Meeting Times and Locations

Days and Times: Monday, Tuesday, Wednesday, Thursday 10:30 am – 12:30 pm
Classroom: PKH 103

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. Attendance will be taken daily and students are expected to attend class, be attentive, 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 Canvas. 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 MyLab and also in the Course Summary located on the Canvas Syllabus. **All deadline times are in Central Time**.

- **Homework and Quiz Assignments** are due at 11:59 PM Central Time.

- **All Unit Exams are taken in the Mathematics Learning Resource Computer Lab (PKH 308 or 313**) during your regularly scheduled class time. It is advised to arrive at least 15 minutes prior to the testing time. **Doors of the Computer Lab will be locked 15 minutes after the start of the exam and late testing will not be allowed.**
- **The Final Exam** will also be held in PKH 308 at a time based on the University schedule. Please check below for the date and time.

Assessment	Assignment Description	Exam Date & Time
Exam 1	20 questions, 45 minutes	Wednesday, July 17, 11:30 am
Exam 2	20 questions, 45 minutes	Tuesday, July 30, 11:30 am
Exam 3	10 questions, 45 minutes	Wednesday, August 7, 11:30 am
Retake Exam 1, 2, or 3	(optional)	Thursday, August 8, 9:00am – 5:00am
Final Exam	35 questions, 135 minutes	Monday August 12, 10:30 am

Grade Calculation

Homework, Quizzes, Exams	Percent of Grade
Homework	10%
Quizzes	10%
Unit Exams (Average of 3 Exams)	50%
Comprehensive Final Exam	30%
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.

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

Homework and Quizzes

All homework and quizzes will be accessed through Canvas as links to MyLab. All electronic 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 calendar. You will receive a zero for any assignments not submitted.
- Homework assignments are set for unlimited access up until the due date and you have 3 attempts per question, however you only have two attempts at each quiz which have a 45 minute time limit and must be completed once opened. Quizzes cannot be saved and resumed later.
- You may also have in-class paper assessments. Please be prepared for class as these may or may not be announced in advance.
- 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.
- A Lockdown program for your browser is required for all electronic quizzes. Be sure that you either complete your electronic quizzes in the Math Computer Lab, or that you have administrative rights to the computer you are using in order to install this program. The program is a free download and easily installed through the MyLab Browser Check found in the Getting Started module in Canvas.
- If you have trouble completing the assignments, please seek some form of tutoring and/or see your instructor for assistance.

Unit Exams

There will be three computerized proctored unit exams throughout the course of the semester. (Please reference the exam schedule above and the Course Summary in the Canvas Syllabus for exact dates.)

- All unit exams are found within Canvas using MyLab and are comprised of questions that must be completed within 45 consecutive minutes. Exams cannot be opened, saved, and returned to at a later time.
- You may use an approved scientific calculator (see list of approved calculators in Materials section), approved formula sheets, and blank scratch paper which will be provided. No additional materials are allowed.
- The approved formula sheets will be supplied by your instructor and lab tutors for all exams. These sheets are identical to the ones posted in the Testing information in the Getting Started module in Canvas.
- All exams are taken in PKH 313 on the UTA campus during your regularly scheduled class time or announced alternative time frame. You must have your MavID or government issued photo ID with you on exam day and will be required to sign in upon entering and exiting the lab.
- You may not leave the room during an exam.
- 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 computerized exam containing material from all sections covered over the course of the semester. (Please reference the exam schedule above and the Course Summary in the Canvas Syllabus for exact dates.)

- The final is found within Canvas using MyLab and is comprised of questions that must be completed within 135 consecutive minutes. The final cannot be opened, saved, and returned to at a later time.
- You may use an approved scientific calculator (see list of approved calculators in Materials section), approved formula sheets, and blank scratch paper which will be provided. No additional materials are allowed.
- The approved formula sheets will be supplied by your instructor and lab tutors for all exams. These sheets are identical to the ones posted in the Testing information in the Getting Started module in Canvas.
- The final exam will be taken in the Math Computer Lab (PKH 308) on the UTA campus. Final exam dates will be announced at least one week prior to final exam week. You must have your MavID or government issued photo ID with you on exam day and will be required to sign in upon entering and exiting the lab.
- You may not leave the room during an exam.
- Use of any unauthorized electronic devices or notes during an exam will result in a grade of ZERO.

Extra Credit

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 one of the three unit exams based on the percentage score earned on the assignment. No more than 5 points can be earned. Extra credit will be applied at the end of the semester and cannot apply to the final exam.

Extra Credit may be earned by correctly answering lecture quizzes given during lecture meetings. Lecture quizzes will be based on topics over which students are expected to prepare beforehand and on topics addressed in class. Students will answer lecture quizzes via web-enabled device or on rare occasions the 3”x5” index cards. **You must be present for the entire lecture to be eligible for that day’s lecture quiz Extra Credit.** A maximum of 5 bonus points can be added to the final exam grade.

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 miss class 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 the Testing information in the Getting Started module in Canvas. You must either submit the forms directly to me during class or office hours or 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.

Course Strategies

The primary methods for course content delivery will be lecture.

- You should bring your textbook with you to class. You will be guided through the notes and course material will be explained.
- Students may work through their homework and quiz assignments outside of class time since the MyLab program through Canvas is accessible from any source with an internet connection. Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend at least an additional 9 hours per week of their own time in course-related activities, including reading required materials, completing assignments, preparing for exams, etc.

Announcements: Found in Canvas

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

Course Related Help for Students

- 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.
- 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.

Institutional Policies

UTA students are encouraged to review the below institutional policies and informational sections and reach out to the specific office with any questions. To view this institutional information, please visit the Institutional Information page (http://www.uta.edu/provost/administrative-forms/course-syllabus/syllabus-institutional-policies.php) which includes the following policies among others:

- Drop Policy
- Disability Accommodations
- Title IX Policy
- Academic Integrity
- Student Feedback Survey
- Final Exam Schedule

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 may 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)*

Faculty are encouraged to discuss plagiarism and share the following library tutorials http://libguides.uta.edu/copyright/plagiarism and http://library.uta.edu/plagiarism/

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 by appointment, drop-in tutoring, mentoring (time management, study skills, etc.), major-based learning centers, counseling, and federally funded programs. For individualized referrals, students may call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at Resource Hotline (http://www.uta.edu/studentsuccess/success-programs/programs/resource-hotline.php).

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.

Emergency Exit Procedures

Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit. 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.

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.