Math 0311 – Foundations for Contemporary Mathematics

Section 500

Course Instructor

Patricia Ellington
ppellington@gmail.com
Mentis Faculty Profile: https://mentis.uta.edu/explore/profile/Patricia-Ellington
The instructor will respond to email inquiries within 24-48 hours.
Office Hours: See Live Webcast/Office Hour Schedule

Learning Resource Center – Mathematics Computer Lab and Clinic

Email: mathemporium@uta.edu
Computer Lab Website: http://www.uta.edu/math/emporium/
Clinic Website: http://www.uta.edu/math/clinic/
Facebook: https://www.facebook.com/pages/UTA-Math-Emporium/460329394127443

Math Department Office

Pickard Hall 478
Phone: 817-272-3261

Textbook and Materials

There is no need to purchase a textbook or any supplementary materials for this course. 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 tests 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 two units of material which will correspond to the Midterm and Final Exam. Within each unit there are five objective blocks with specific details and assignment requirements. There are videos to assist you in learning all course objectives. 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 when possible and you can earn up to 5 percentage points of extra credit towards your final exam.

Attendance Policy

Students are expected to check email regularly and participate in discussions/activities and meet all assignment deadlines. 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 participated in their class based on evidence such as a test, homework or an engagement online via Blackboard. This date is reported to the Department of Education for federal financial aid recipients.

Schedule of Exams

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

Grade Calculation

Exams	Percent of Grade
Discussions	10%
Quizzes	50%
Midterm Exam	20%
Final Exam	20%
Total:	100%

AOP – Foundations for Contemporary Mathematics

MATH 0311 **Aug 14 — Oct 06, 2017**

Grading Scale

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

70 — 100%	**P**
Below 70%	**F**

Discussions

You will have two discussion forums within this course. The first one is optional and will give you an opportunity to introduce yourself to your fellow classmates. Meaningful participation in the Introduce Yourself forum could earn up to 5 percentage points of extra credit towards your Midterm Exam. The second forum provides a Q & A portal for you to ask and answer questions about the course content. Learning from your peers is a powerful way to master course material. We encourage you to ask questions, answer questions, and provide any tips that you find helpful for learning mathematics. You will be required to post two meaningful submissions throughout the course; one during the first half of the course prior to the Midterm Exam and another one in the second half of the course prior to the Final Exam. Your Academic Coach is available to help you along the way.

Homework/Study Plan and Quizzes

This is a self-paced, diagnostic course. Therefore, all homework assignments will be individualized and based on a pre-test evaluation. All assignments will be located in MyLabsPlus. (www.uta.mylabsplus.com) The orientation assignment and the first pretest are available to you on the first class day. The second pretest will open after the completion of the Midterm exam. The automated system will provide feedback on assignments immediately upon submission.

- Within each of the two units, there is a pretest assignment. Once the pretest is taken, the system will recommend homework assignments based on the five learning outcomes included within each pretest. Homework assignments are found within the study plan and are set for unlimited access. Students should refer to the Course Guide on the Start Here page within Blackboard and work through the questions until they feel comfortable with the material. The grades reflected in MLP for homework are not counted toward the actual course average.
- 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. 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.
- **NO late quizzes will be accepted**, so watch the due dates on the MyLabsPlus calendar. You will receive a zero for any quizzes not submitted. There will be ten quizzes throughout the course, five within each unit. You will have three attempts at each quiz. The system will only count the attempt with the highest score toward your average. The quizzes are timed and do not contain any learning aids for assistance. Quizzes should be used to help prepare for the exams. You will have 60 minutes to complete each quiz ranging from 10 to 15 questions. For the specific number of questions and other details for each quiz, please see your course schedule.
- If you have trouble completing the assignments, please seek some form of tutoring and/or see your instructor for assistance.

Midterm and Final Exam

The Midterm and Final Exam are proctored exams containing material from each respective set of course learning outcomes. The Midterm covers the first five objectives and the Final covers the last five objectives. (Please reference the course schedule for exact dates.)

- The Midterm and Final are found within MLP and are comprised of 30 questions that must be completed within 120 consecutive minutes. Each exam cannot be opened, saved, and returned to at a later time. Exams are opened a few weeks prior to the deadlines.
- You may use two 3x5 index cards with notes front and back, an approved scientific calculator (see list of approved calculators in Materials section) and blank scratch paper. No additional materials are allowed.
- Each exam can either be taken in the Learning Resource Mathematics 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.

Makeup Policy

In addition to the policy that NO late quizzes will be accepted (see Homework/Study Plan 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 test BEFORE you leave. To request an alternate test date because of an approved conflict, please fill out the Alternate Test 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 test 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.
- Lab Tutors – open lab times are available in addition to your class times. Visit http://www.uta.edu/math/emporium/ for more information.
- Math Clinic – located in Pickard Hall 325, offers free daily help. http://www.uta.edu/math/clinic/
- 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 is designed for students whose placement scores or life experience indicate that they may need additional preparation in order to take a college credit-bearing mathematics course. This course provides foundational preparation for MATH 1301. Topics include basic numeric and algebraic operations, expressions, linear and quadratic equations, solving techniques, graphing, mathematical logic and reasoning, as well as a brief introduction to probability and statistics. Students will use mathematical software to master targeted areas and progress through a modified self-paced environment in order to achieve college readiness. Immediately following the successful completion of this foundational course, students should register for a credit-bearing mathematics course according to their degree plan, specifically MATH 1301. Credit in this course does not fulfill any degree requirements.

Learning Objectives and Outcomes

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

1.0 Students will be able to perform calculations with basic geometric shapes and convert units of measurement.
2.0 Students will be able to perform integer operations and evaluate variable expressions within the real number system.
3.0 Students will be able to solve linear equations and inequalities as well as obtain a basic knowledge of set operations.
4.0 Students will be able to interpret linear equations and their graphs using the rectangular coordinate system, forms of lines, and slope.
5.0 Students will be able to discuss functions in a conceptual, graphical, and numerical manner.
6.0 Students will be able to evaluate exponents and perform operations involving polynomials.
7.0 Students will be able to factor second and third degree polynomials.
8.0 Students will be able to solve and graph quadratic equations.
9.0 Students will be able to convert between decimals, fractions, and percentages while learning to solve mathematical applications in various forms.
10.0 Students will be able to distinguish patterns and develop mathematical reasoning skills.

Course Competencies

1.0 To demonstrate competency in geometric shapes and measurements, a student should be able to:
- 1.1 Find the perimeter and area of rectangles, squares, triangles, and composite shapes.
- 1.2 Use square roots, problem solving skills, and the Pythagorean Theorem to determine unknown lengths.
- 1.3 Apply the appropriate formula for applications.
- 1.4 Convert between metric and U.S. customary units using unit fractions and operations.
- 1.5 Determine the correct unit measurement and make inferences about reasonable dosage requirements.
- 1.6 Use formulas to convert between Celsius and Fahrenheit temperatures.

2.0 To demonstrate competency in the real number system, a student should be able to:
- 2.1 Add, subtract, multiply, and divide signed numbers.

2.2 Evaluate exponential expressions, use order of operations, and inequality symbols.
2.3 Translate between word statements and mathematical symbols.
2.4 Simplify absolute value expressions.
2.5 Identify and illustrate properties of the real number system.
2.6 Simplify expressions by combining like terms.

3.0 To demonstrate competency in solving equations and inequalities, a student should be able to:
3.1 Solve linear equations containing both integer and fractional values.
3.2 Solve linear equations that are conditional, identities, and contradictions.
3.3 Solve for a specified variable.
3.4 Determine the appropriate formula for applications of linear equations.
3.5 Use and understand set notation involving intersections and unions.
3.6 Solve linear inequalities.
3.7 Use and understand interval notation and graph solutions on the real number line.

4.0 To demonstrate competency in graphing, a student should be able to:
4.1 Learn the characteristics of the Cartesian coordinate system and linear equations in two-variables.
4.2 Read and interpret graphs.
4.3 Calculate the slope of a line given two points, an equation, or the graphical representation.
4.4 Interpret slope as an average rate of change.
4.5 Find the slope-intercept, point-slope, and standard forms of a linear equation.
4.6 Evaluate intercepts and build tables of ordered pairs.
4.7 Graph lines using points, intercepts, and slope.

5.0 To demonstrate competency in functions, a student should be able to:
5.1 Define and identify relations and functions.
5.2 State the domain and range of a function.
5.3 Evaluate functions using function notation.
5.4 Graph linear functions.

6.0 To demonstrate competency in exponents and polynomials, a student should be able to:
6.1 Illustrate the product, power, and quotient rules of exponents.
6.2 Manipulate negative exponents and use combinations of rules.
6.3 Simplify and evaluate polynomials.
6.4 Add and subtract polynomials by combining like terms.
6.5 Multiply and find special products of polynomials.
6.6 Divide polynomials by a monomial.

7.0 To demonstrate competency in factoring, a student should be able to:
7.1 Determine the greatest common factor.
7.2 Factor by grouping.
7.3 Factor a trinomial with different leading coefficients and greatest common factors.
7.4 Factor a trinomial using various methods.
7.5 Factor using special factoring formulas.
7.6 Use factoring to solve quadratic equations.
7.7 Solve additional problems involving geometric figures and Pythagorean applications.

8.0 To demonstrate competency in solving and graphing quadratic equations, a student should be able to:
8.1 Solve quadratic equations using factoring, square root property, and the quadratic formula.
8.2 Graph basic quadratic equations.
8.3 Determine domain and range for a quadratic function.
8.4 Use function notation for quadratics.

9.0 To demonstrate competency in decimals, fractions, and percentages, a student should be able to:
- 9.1 Convert between fractions, decimals, and percentages.
- 9.2 Solve problems using a percent proportion.
- 9.3 Calculate simple interest.
- 9.4 Solve applications about sales tax and commission.

10.0 To demonstrate competency in mathematical reasoning, a student should be able to:
- 10.1 Identify patterns and apply inductive reasoning.
- 10.2 Use recursion formulas and factorial notation.
- 10.3 Evaluate conditional and biconditional statements.
- 10.4 Apply deductive reasoning skills.

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 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)

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 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

For semester-long courses, 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.