

# MATH 115-007-Precalc Algebra & Trig

Fall 2023

Credit Hours: 3

Lecture



## Contact Information

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Matthias Dogbatsey

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**Office Hours:**

Listed in Blackboard

**UA Campus Directory:**

<https://www.ua.edu/directory/>

EMAIL: You can reach your instructor by emailing your instructor at [math115@ua.edu](mailto:math115@ua.edu) . Please put my name-section number "Dogbatsey-07" in the subject box. This section is 07. All correspondence for this course will be made through your crimson email account. Students are responsible for all important content sent to them in course emails by the instructor. Students should check and read their Crimson email often.

## Course Description

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Properties and graphs of exponential, logarithmic, and trigonometric functions are emphasized. Also includes trigonometric identities, polynomial and rational functions, inequalities, systems of equations, vectors, and polar coordinates. Grades are reported as A, B, C, or NC (No credit). Degree credit will not be granted for both MATH 115 and (MATH 112 or MATH 113).

Core Attributes: Mathematics

Prerequisite(s): UA Math Placement Test Score of 370-439 or ACT Math Subscore of 28 or old SAT Math Subscore of 630 or new SAT Math Subscore of 650

## Other Course Materials

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WORKING: The Math 115 course work can be done on any computer with internet access.

- To get to our course: Log in to [ualearn.blackboard.com](http://ualearn.blackboard.com) using your myBama information, click on your course.
- All assignments and tests will be completed through WebAssign, access to which is linked in your Blackboard course. WebAssign may work better with some browsers than others. If you have trouble, try a different internet browser. Troubleshoot by checking to make sure you are allowing pop-ups and allowing cookies always.
- Always SAVE or SUBMIT your work before logging out of WebAssign. Unsaved work will be LOST.
- No full-credit deadline extensions will be given because of internet or computer issues. To be safe, work well ahead of the deadlines.

## Required Texts

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**ACCESS GRANTED CODELESS / MATH 112/113/115 AGP (STEWART/WEBASSIGN FOR STEWART/REDLIN/ WATSON'S PRECAL)**

**Subtitle:** ACCESS GRANTED CODELESS / MATH 112/113/115 AGP  
(STEWART/WEBASSIGN FOR STEWART/REDLIN/ WATSON'S PRECAL)

**ISBN:** 978-0-01-387054-6

**Required or Recommended:** Required

## **CALCULATOR CASIO FX-260 SOLAR II**

**Subtitle:** CALCULATOR CASIO FX-260 SOLAR II

**Required or Recommended:** Required

## **Student Learning Outcomes**

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- Students will be able to understand and graph polynomial, rational, exponential, logarithmic, and trigonometric functions and their inverses.
- Students will be able to solve linear, quadratic, absolute value, rational, exponential, logarithmic equations and inequalities and trigonometric equations.
- Students will be able to graph circles, parabolas, ellipses, and hyperbolas.
- Students will be able to understand polar graphs, and complex numbers in polar form, their powers, and roots.
- Students will be able to perform vector operations.
- Students will be able to solve systems of equations.

## **Outline of Topics**

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### **Math 115 Assignment Schedule (subject to change)**

- 1.5 Hmwk- Equations
- 1.6 Hmwk-Complex Numbers
- 1.8 Hmwk-Inequalities
- 1.9 Hmwk-The coordinate plane: Graphs of equations, circles
- 2.1 Hmwk-Functions
- 2.2 Hmwk- Graphs of Functions
- 2.6 Hmwk-Transformations of Functions
- 2.7 Hmwk-Combining Functions
- 2.8 Hmwk-One-to One Functions and Their Inverses
- 3.1 Hmwk-Quadratic Functions and Models
- 3.2 Hmwk-Polynomial Functions and Their Graphs
- 3.3 Hmwk-Dividing Polynomials
- 3.4 Hmwk-Real Zeros of Polynomials

**Math 115 Assignment Schedule (subject to change)**

3.6 Hmwk-Rational Functions  
3.7 Hmwk-Polynomial and Rational Inequalities  
4.1 Hmwk-Exponential Functions  
4.2 Hmwk-Natural Exponential Function  
4.3 Hmwk-Logarithmic Functions  
4.4 Hmwk-Laws of Logarithms  
4.5 Hmwk-Exponential & Logarithmic Equations  
6.1 Hmwk-Angle Measure  
6.2 Hmwk-Trigonometry of Right Triangles  
6.3 Hmwk-Trig Functions of Angles  
5.1 Hmwk-The Unit Circle  
5.2 Hmwk-Trig Functions of Real Numbers  
5.3 Hmwk-Trigonometric Graphs  
5.4 Hmwk-More Trigonometric Graphs  
5.5 Hmwk--Inverse Trigonometric Functions and their Graphs  
6.4 Hmwk-Inverse Trig Functions & Right Triangles  
6.5 Hmwk-The Law of Sines  
6.6 Hmwk-The Law of Cosines  
7.1 Hmwk-Trigonometric Identities  
7.2 Hmwk-Addition & Subtraction Formulas  
7.3 Hmwk-Double-Angle, Half-Angle  
7.4 Hmwk-Basic Trigonometric Equations  
8.1 Hmwk-Polar Coordinates  
8.2 Hmwk-Graphs of Polar Equations  
8.5 Hmwk-Vectors

EXTRA - HELP: Capstone Center for Student Success: website: <https://success.ua.edu>,  
phone number 205-348-7011.

Diagnostic Test:

- A required Diagnostic of Prerequisite Topics is scheduled in WebAssign to assess your understanding of the prerequisites of the course. It will be graded for you to

know your strengths and weaknesses of the required prerequisite concepts. However, this grade will not be a part of your overall grade in Math 115. This should be done without help so you can get an accurate diagnosis on the concepts you remember from the previous course.

- The diagnostic test helps you identify the prerequisites that you need help with, so it is important to complete it as soon as possible. There is a review assignment based off the diagnostic that you can use to help you remember/re-learn the material needed to be successful in this course. The review assignment is optional, but is a great resource to help you fine tune the concepts needed for Math 115.
- The diagnostic test must be completed by the first homework assignment and before test 1.

## Exams and Assignments

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- **Homework:** There will be a homework assignment for each section. Each homework assignment has a due date and time posted in the syllabus and in the software. The assignment must be completed before the deadline for full credit. Each homework question can be attempted up to 12 times. Homework problems completed at least 24 hours before the deadline will get a 10% bonus. If you do not complete the assignment on time, you may request an extension (with 30% reduction) within 14 days after the deadline. Always SAVE or SUBMIT your work. Unsaved work will be LOST. Your lowest 3 homework scores will be dropped.
- **Test Reviews:** There will be 4 test reviews and a final exam review. Each review will NOT count as a graded assignment. The test reviews are only available to help you prepare for the tests. These reviews are the best way to prepare for the tests. If you master the concepts in the reviews, then you will do very well on the tests. The reviews span the material for the entire test and are therefore very long. You should start working on the reviews well before their deadlines. Use them to gauge your understanding of the test material.
- **Tests:** There will be 4 tests and a mandatory comprehensive Final exam. You will have 50 minutes to complete each of the Tests 1-4. All tests will be taken in person during your class time. Note: WebAssign shows the deadline (NOT the start time) for your test. The one lowest score of your four tests will be dropped at the end of the semester, however test scores penalized due to academic misconduct will not be allowed to be dropped. You

will be given 2 submissions when you take your test. If time allows, you can correct your mistakes after your first submission and re-submit the questions you missed on the first attempt. There is no penalty for answers corrected on the 2nd attempt.

- **Final Exam:** The comprehensive/cumulative final exam is required and cannot be dropped. You will have only 120 minutes (2 hours) to complete your final. You will be given 2 submissions when you take your test. If time allows, you can correct your mistakes after your first submission and re-submit the questions you missed on the first attempt. There is no penalty for answers corrected on the 2nd attempt. Once you open the exam the time will begin, so be sure not to open the exam until you are ready to take the exam.

No full-credit deadline extensions will be given because of internet or computer issues. To be safe, work well ahead of the deadline.

#### **TEST DAYS:**

Test 1 - September 13 (at your scheduled class time), MSB (room TBA)

Test 2 - October 4 (at your scheduled class time), MSB (room TBA)

Test 3 - November 1 (at your scheduled class time), MSB (room TBA)

Test 4 - November 29 (at your scheduled class time), MSB (room TBA)

Final Exam - December 15 (at 08:00am-10:00am) MSB (room TBA)

## **Grading Policy**

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**COURSE GRADES:** This course is under the “A, B, C, and NC” policy, and +/- grades will be given. Grades will be determined from homework, four tests and a final exam. Your course grade will be determined by points earned as follows:

#### **GRADED ITEMS**

- Homework 20% (3 drops)
- 4 Tests 50% (1 drop)
- Final Exam 30% (required)

#### **COURSE GRADE SCALE**

## COURSE GRADE SCALE

A+ 98 - 100	A 92 - 97.9	A- 90 - 91.9
B+ 88 - 89.9	B 82 - 87.9	B- 80 - 81.9
C+ 78 - 79.9	C 72 - 77.9	C- 70 - 71.9
NC < 70	(NC means NO CREDIT)	

Students must earn a minimum of 70% (C-) to pass. Note: The last day to drop this course with a W is Wednesday, November 1st, 2023. No withdrawals from this course after this date.

## Policy on Missed Exams and Coursework

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- There are no makeup tests or other assignments. Instead, the lowest 3 homework scores and lowest test score will be automatically dropped at the end of term. The drops are to be used in case of illness or other emergencies. If you have special circumstances that cause you to miss more than the allotted drops, you may submit an official explanation and any supporting documents to <https://mtlc.ua.edu/petition/>. Do not submit a petition unless drops have been exhausted.
- If homework assignments are missed or not completed for any reason, you may request an extension in WebAssign within 14 days of the deadline. You have to do this on your own. If granted, you may complete questions within 14 days of the original deadline for up to 77% partial credit. Only the work submitted after the deadline will be penalized; all work submitted before the deadline gets full credit. Any assignments not attempted will be scored 0. At the end of the semester, the lowest 3 homework scores will be dropped.
- Even though WebAssign may extend an assignment past the end of the semester, all extended work must be submitted by Thursday, 12/14 at 8am to count towards your final grade.

- If a regular test is missed due to any circumstance, no deadline extension or makeup test will be given. The zero test score will be considered your lowest and will be dropped. Only one test score may be dropped.
  - Students who will miss any assignment deadlines due to official University business or military business must submit official UA/military documentation at <https://mtlc.ua.edu/petition/> 3 business days before absence.
- Although you have 3 drops for homework and 1 dropped test score, it is important to take every assignment and test seriously and to complete all assigned work on time. Do not rely on earlier assignments as being your drops just in case a situation arises later in the semester where you might need to apply those drops. The selection and dropping of lowest scores will happen at the end of the semester after all assignments are past due. Do your best on every assignment.

## **Attendance Policy**

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CLASS Attendance and lectures:

This course has specific meeting days, times, and classroom. You are expected to attend all of your scheduled classes. Class typically meets each Monday, Wednesday and Friday unless the University is closed.

## **Notification of Changes**

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The instructor will make every effort to follow the guidelines of this syllabus as listed; however, the instructor reserves the right to amend this document as the need arises. In such instances, the instructor will notify students in class and/or via email and will endeavor to provide reasonable time for students to adjust to any changes.

## **Department of Mathematics Academic Misconduct Policy**

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1. During tests you may only use a calculator that has been specifically approved by the instructor. Using or being in possession of an unauthorized calculator will be considered academic misconduct.



2. Taking a test for another student will be treated as academic misconduct by both parties. In particular, showing an instructor a fake ID or another student's ACT card will be treated as academic misconduct.
3. Receiving or providing assistance of any kind during an exam will be treated as academic misconduct by both parties.
4. Cellphones must be turned completely off and placed with other belongings on the floor. All watches must be taken off and put away. DO NOT put your phone or watch in your lap or on your chair or desk. Physically holding or concealing on your person a phone, watch or other unauthorized technological device (including but not limited to headsets, earphones, earbuds, microphones, cameras, or scanning pens) will be treated as academic misconduct.
5. If you are seen using an unauthorized device, the instructor may request that you turn it over. It will be returned at the end of the exam. However, the instructor does not have to request your device in order to charge you with academic misconduct.
6. If for any reason you must have access to your phone while taking a test, you must inform an instructor prior to accessing your phone. The instructor must be present while you use the phone. Failure to do so will be treated as academic misconduct.
7. If necessary, scratch paper will be provided. No other paper is allowed; being in possession of any unauthorized papers will be treated as academic misconduct.
8. You may review your test before leaving the exam. You may not photograph your exam or write down or copy any information pertaining to the test, nor may you share any information about the test with anyone by any means. This includes sharing information by word of mouth, written correspondence, electronic device or any type of social media. Providing information about the test to other students will be treated as academic misconduct. Also, having in your possession information about any test prior to the test that was not given to you by the instructor will be treated as academic misconduct.
9. You may not leave your place during a test for any reason. This includes getting water or going to the restroom. You must take care of these things before the start of the test. If you leave your test without permission, your test will be collected and you will not be allowed to continue working on it.
10. Interrupting the exam or creating a disturbance to cause a distraction during the exam will be treated as academic misconduct.

In order to enforce these rules, an instructor may require you to do any of the following. Failure to comply will be treated as academic misconduct.

1. Remove hats, hoods, scarves, or other head coverings.
2. Remove bulky coats, sweaters or other over-garments.
3. Roll up sleeves.
4. Remove anything seen in your ears or on your person.
5. Empty your pockets and display the contents.
6. Sit in assigned seats prior to the start of the exam.
7. Require you to move to a new seat during the exam.
8. If you wear a hat, head covering or long-sleeved garment for religious reasons, the instructor may still request to examine under them. If you would prefer to have this done privately, or by an instructor or staff member of the same sex, you will be accommodated. To ensure accommodation, you must discuss this with your instructor prior to the test.

If you use a hearing aid or other adaptive technology that could be mistaken for an earbud or other unauthorized electronic device, please notify your instructor prior to the test. You may be asked to provide documentation of your need to use such a device.

### **MTLC Specific Policies**

1. In the MTLC, you may only use either the **Casio fx-SOLAR SCHOOL** or the **Casio fx-260 SOLAR II**.
2. In the MTLC, swiping another student's ACT card will be treated as academic misconduct.
3. In the MTLC having any other website other than the test open during a test will be treated as academic misconduct.
4. In the MTLC, if you leave your computer during a test without permission, your exam will be closed and you will forfeit any remaining exam time.

## **Statement on Academic Misconduct**

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Students are expected to be familiar with and adhere to the official [Academic Misconduct Policy](#).

## **Statement On Disability Accommodations**

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The University of Alabama is committed to ensuring the full participation of all students in its programs. If you have a documented disability (or think you may have a disability) and need reasonable accommodation(s) to participate in this class, contact the Office of Disability Services (or ODS; 205-348-4285, [ods@ua.edu](mailto:ods@ua.edu), Houser Hall 1000, [www.ods.ua.edu](http://www.ods.ua.edu)) as soon as possible. If you have been approved to receive accommodations through ODS, please meet with your instructor or College designee during office hours or by appointment to review your accommodation letter and discuss how accommodations can be implemented in this course.

## **Severe Weather Protocol**

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Please refer to the Severe Weather Guidelines located on the [Office of Emergency Management website](#).

## **Pregnant Student Accommodations**

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Title IX protects against discrimination related to pregnancy or parental status. If you are pregnant and will need accommodations for this class, please review the University's FAQs on the [UAct website](#).

## **Religious Observances**

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Under the Guidelines for Religious Holiday Observances, students should notify the instructor in writing or via email during the first two weeks of the semester of their intention to be absent from class for religious observance. The instructor will work to provide reasonable opportunity to complete academic responsibilities as long as that does not interfere with the academic integrity of the course. See full guidelines at [Religious Holiday Observances Guidelines](#).

## UAct Statement

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The University of Alabama is committed to an ethical, inclusive community defined by respect and civility. The [UAct website](#) provides extensive information on how to report or obtain assistance with a variety of issues, including issues related to dating violence, domestic violence, stalking, sexual assault, sexual violence or other Title IX violations, illegal discrimination, harassment, hate or bias incidents, child abuse or neglect, hazing, threat assessment, retaliation, and ethical violations or fraud.

## Wellness Resources

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College can be a stressful time. If you or someone you know is facing a challenging time or dealing with academic or personal stress, anxiety, depression, or other concerns, we strongly encourage and support you to seek assistance or to help friends find the care that they may need by reviewing the [Campus Resource List for Students](#).

If you are experiencing a personal crisis and need urgent assistance, you can also contact the following resources:

### **Counseling Center**

Monday-Friday during routine Center hours (205-348-3863).

Weekends, holidays, after-hours (contact UAPD at 205-348-5454 and ask to speak with the on-call counselor).

You may also text BAMA to 741-741 to text with a trained volunteer.

### **Women and Gender Resource Center**

Monday-Friday during routine Center hours (205-348-5040).

Weekends, holidays, after-hours: contact UAPD at 205-348-5454 and ask to speak to the on-call advocate for the WGRC.