

# **MATH 113-100-Precalculus Trigonometry**

**Summer 2025**

**Credit Hours: 3**

**Lecture**



## **Contact Information**

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Matthias Dogbatsey

**Email:** [mdogbatsey@crimson.ua.edu](mailto:mdogbatsey@crimson.ua.edu)

**UA Campus Directory:**

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

## **Course Description**

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Continuation of MATH 112. The course includes study of trigonometric functions, inverse trigonometric functions, trigonometric identities and trigonometric equations. Complex numbers, De Moivre's Theorem, polar coordinates, vectors and other topics in algebra are also addressed, including conic sections, sequences and series. 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: Mathematical Science

Prerequisite(s): C- or higher in MATH 112

## Other Course Materials

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**TEXTBOOK AND ACCESS CODE:** “Precalculus Mathematics for Calculus”, 8th ed. by Stewart, Redlin, and Watson, published by Cengage Learning. An access code is required, which should already be included with your UA billing. The access code allows student access to the publisher’s website, where all assignments and tests must be completed and where the entire textbook may be viewed online and any part of the book may be printed (up to 10 pages at a time). A hard copy of the entire textbook may be purchased, but is not required. Note: Students must always access WebAssign by first opening the Blackboard Learn Course Home Page and then clicking the Access WebAssign link.

Required Calculator: Casio fx-260 or Texas Instruments TI-30X IIS Solar

Free Tutoring: Math tutoring will be available from MTLC and CCSS. Times and location will be shown in Blackboard. Students are encouraged to utilize this resource as much as possible.

Course Email: Students are responsible for all important content sent to them in course emails by their instructor. Students should check and read their UA email often.

**DISABILITY STATEMENT:** The University of Alabama is committed to ensuring the full participation of all students in its programs. Students who require accommodations must register with ODS each semester at [www.ods.ua.edu](http://www.ods.ua.edu). Once approved, students will need to go into the ODS portal and email the Faculty Notification Letter to instructors for accommodations. Your math instructor must receive this letter at least 3 business days prior to a test to ensure your accommodations are in place for that and subsequent tests. After you send the Faculty Notification Letter, you will receive an email from your math instructor and/or [mtlcods@ua.edu](mailto:mtlcods@ua.edu) with details about providing your accommodations.

- *Please note that while every effort will be made to provide the needed accommodations, due to the logistics of MTLC space and personnel availability, without the mentioned 3 business days’ notice the accommodations cannot be guaranteed.*

must email to instructors of each of your classes. Your math instructor must receive this letter at least 3 business days prior to a test to ensure your accommodations are in place for that and subsequent tests.

After you send the Faculty Notification Letter, you should receive an email from your instructor and/or [mtlcodes@ua.edu](mailto:mtlcodes@ua.edu) with details about providing your accommodations.

## 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

## Student Learning Outcomes

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- Students will be able to recognize and use trigonometric functions and their inverses in applications involving right and oblique triangles.
- Students will be able to graph the trigonometric functions in the rectangular coordinate system.
- Students will be able to solve trigonometric equations with angles using both radian and degree measure.
- Students will be able to work with complex numbers in polar form, perform vector operations, and use vectors in applications.
- Students will be able to recognize and graph conic sections and identify their pertinent components.

## Outline of Topics

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Please look at your WebAssign homepage for all deadlines.

Angle Measure
Trigonometry of Right Triangles
Trigonometric Functions of Angles

Angle Measure
The Unit Circle
Trigonometric Functions of Real Numbers
Trigonometric Graphs
More Trigonometric Graphs
Inverse Trigonometric Functions
Inverse Trigonometric Functions and Right Triangle
The Law of Sines
The Law of Cosines
Trigonometric Identities
Addition and Subtraction Formulas
Double-Angle, Half – Angle Formulas
Basic Trigonometric Equations
More Trigonometric Equations
Polar Coordinates
Polar Form of Complex Numbers
Vectors
The Dot Product
Parabolas
Ellipses
Hyperbolas

## Exams and Assignments

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**WORKING:** The Math course work can be done on any computer with internet access. To get to our course: Log in to [ulearn.blackboard.com](http://ulearn.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 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.

**HOMEWORK:** There will be a homework assignment for each section. Each homework assignment has a due date and time posted in WebAssign. Each homework question can be attempted up to 12 times. For full credit the assignment must be completed before the deadline shown in WebAssign. Homework questions completed at least 12 hours before the deadline will get a 10% bonus. Your lowest 3 homework scores will be dropped.

**CLASS INSIGHTS:** In Webassign on your homepage you will see a link for class insights. You can use this feature to go back and practice questions you didn't master. Class insights is different for each student. It keeps a record if you have to use multiple attempts on questions to get it right or missed that question completely. This is a great tool to help you study.

#### **TEST REVIEWS:**

- Reviews for each test and an overview for the final exam will be scheduled in WebAssign.
- All test reviews are optional (non-graded), therefore will not be incorporated, in any way, into the final grade. However, I strongly encourage you to work through all problems included in the reviews for full preparation for the exams. The reviews span the material for the entire test and are therefore long. You should start working on the reviews well before their deadlines. Use them as a bridge from learning a section's material to studying for the test.

**TESTS and COMPREHENSIVE FINAL EXAM:** There will be 4 tests and a mandatory, comprehensive Final Exam administered during the semester. Test deadline days are shown below. Tests are timed. You will still have only 60 minutes to complete each of the Tests 1-4 and 120 minutes for the comprehensive Final Exam. Once you click on the test in WebAssign, the time will begin, so be sure not to click on the test until you are ready to

take the entire test. You will be given 2 submissions within your time limit when you take your test. If time allows, you can correct your mistakes after your first submission and resubmit. Each test must be completed by the deadline shown in WebAssign. The lowest of the 4 regular test scores will be dropped. Test scores penalized due to academic misconduct will not be allowed to be dropped.

**PROCTORING INSTRUCTIONS:** All students will need a computer with reliable internet and a webcam to be able to take online proctored tests.

When taking an online test, follow these guidelines:

- Select a location where you won't be interrupted, with a secure, reliable internet connection.
- Before starting the test, know how much time is available for it, and also that you've allotted sufficient time to complete it.
- Turn off all mobile devices, phones, etc. and don't have them within reach.
- Clear your area of all external materials – books, notes, other computers, or devices.
- Remain at your desk or workstation for the duration of the test.
- Video recording must remain active at all times during your test
- UA honor code will be upheld.

**PROCTORING INFORMATION:** In blackboard you will find an entire section on the menu panel about exam proctoring for further information. Below is some information to help you get started. The proctoring link will be available once drop/add ends.

All tests must be taken in a secured location with a proctor. Charges may be incurred for proctoring services; students are responsible for these charges. All proctored exam scheduling should be done in your Blackboard course through the "Proctored Exam Scheduling" link. Alabama Online Testing Services will email you once you are able to start scheduling your proctoring. This is usually a few days after the drop/add date.

Students are responsible for scheduling an appropriate proctor for each exam at least 48 hours before the intended exam time. There are three options for exam proctoring:

1. Online Proctoring - Live Premium: Using the online proctoring service SMARTER PROCTORING, you may take your proctored exam virtually anywhere in the world.
  1. Instructions for setting up an SMARTER PROCTORING account, scheduling and taking an online proctored exam, and what to expect are posted in our Blackboard course.
  2. Fees :Live Online Proctoring of Exams cost \$14 per hour USD for each test. Sales tax may apply. Live proctoring REQUIRES you to schedule ahead of time. VERY IMPORTANT: Times will fill up fast. Be sure to register for your tests at the beginning of the semester to assure a scheduled time. You can always go back and cancel or reschedule as needed.
  3. Students taking an online proctored exam are REQUIRED to have a computer with an internal or external webcam, microphone, and speakers (internal or external).
  4. The Google Chrome web browser should be use to test with SMARTER PROCTORING. The pop-up blocker function should be disabled before testing with SMARTER PROCTORING.
  5. Cellular phones, tablets, and Chromebooks cannot be used to take an online proctored exam. No exceptions will be made.
  6. Refer to Blackboard and email sent from UA online for more detailed information on setting up your account
2. On Campus Proctored Testing: At UA Testing Services, Houser Hall, 301 7th Ave, Suite 2040 (second floor). For a detailed map of our exact location on campus, please use the following link: <https://map.concept3d.com/?id=1222#!m/324804>.
  1. Students who do not already have a parking permit for on-campus parking and require a parking spot for the day will need to park at the Ferguson Parking Deck. The parking deck requires a fee paid by credit/debit card or Bama Cash. No cash will be allowed. The amount of time spent in the parking deck will determine your fee. Information and directions about parking can be found by visiting [www.bamaparking.ua.edu/visitor-information/](http://www.bamaparking.ua.edu/visitor-information/).

2. Instructions for setting up a SmarterProctoring account and scheduling an on-campus proctored exam are posted in our Blackboard course.
3. There is no cost for testing in our on-campus testing center.
3. Off Campus In Person: At a UA-approved location with a UA-approved proctor.
  1. Instructions for setting up a SmarterProctoring account and scheduling an off-campus proctored exam are posted in our Blackboard course.
  2. The criteria for being an off-campus, in-person proctor for UA are posted in our Blackboard course. This takes time to get approved. Start immediately locating a proctor if this is your choice of proctoring.
  3. Any proctoring exam fees are the responsibility of the student.

**REQUIRED IDENTIFICATION:** For all proctored exams students are required to bring two forms of identification, one being a picture ID.

1. It is preferred that students bring their Action Card, physical or digital version, and a second form of ID such as a driver's license.
2. Students in UA Early College who do not have an Action Card can bring their driver's license or driver's permit and a second form of ID with their name on it such as a library card, passport, or a high school ID card.

Setting Up Your SMARTER PROCTORING Account and Testing Your Computer BEFORE Your Exam. If using in person proctoring you will also set up Smarter Proctoring accounts.

To set up your SMARTER PROCTORING account, follow the steps below. You should set up your SMARTER PROCTORING profile and check to ensure you have the necessary equipment before your exam day.

1. If you have not already, install the Google Chrome web browser.
2. Disable your pop-up blocker.
  1. Select the three dots icon in the top right corner of the browser.
  2. From the drop-down menu, select "Settings."
  3. On the left side of the screen, choose "Privacy and Security."



4. Select "Site Settings."
5. Scroll down to the "Content" section.
6. Select "Pop-ups and Redirects."
7. Toggle the setting from Blocked to Allowed.
3. Select the SMARTER PROCTORING link in blackboard under the course menu link for proctoring exams.
4. You will be prompted to create your profile by filling in your name, email, and phone number.
5. Check to make sure your time zone is set to the correct time zone in which you plan to test.
6. Upload a picture of your photo ID. This ID will also be used when you take your test.
7. Select and answer three challenge questions.
8. Submit your digital signature.
9. Select "Check if your system meets SMARTER PROCTORING requirements."
10. Once you have created your profile, you will be directed to your SMARTER PROCTORING dashboard. From here, you can start your exams. You can also edit your profile information.

#### PROCTORING INSTRUCTIONS:

All tests must be taken in a secured location with a proctor. Charges may be incurred for proctoring services; students are responsible for these charges. All proctored exam scheduling should be done in your Blackboard course through the "Proctored Exam Scheduling" link. Alabama Online Testing Services will email you once you are able to start scheduling your proctoring. This is usually a few days after the drop/add date. All students will need a computer with reliable internet and a webcam to be able to take online proctored tests.

- For more details, review the proctoring information and procedures at the Alabama Online webpage (<https://online.ua.edu/testing-services/>) and at the "Proctored Exam Scheduling" link in blackboard. Please make sure you have your proctor in place as soon as possible; times do fill up.

## ODS Accommodations

If you require ODS accommodations, they must be registered with the Office of Disability Services (ODS). Once registered, ODS will send your accommodation information to your professor(s). Your professors will then need to forward that information to UA Online Testing Services at [onlinetesting@ua.edu](mailto:onlinetesting@ua.edu). It is always a good idea to ensure that UA Online Testing Services and your professor have received your accommodation information prior to your first exam. The instructor must receive your paperwork a minimum of 3 business days prior to test.

**DO NOT LOG INTO MY BAMA TO GET TO BLACKBOARD. MY BAMA IS A TIMED PORTAL THAT WILL LOG OUT OF YOUR EXAM AND YOUR ANSWERS WILL NOT SAVE. LOG INTO BLACKBOARD DIRECTLY AT [ulearn.blackboard.com](https://ulearn.blackboard.com)**

**TEST DEADLINES:** All tests must be proctored using the required UA proctoring service for online or in person proctoring. Proctoring information is provided in Blackboard. All tests are due (must be completed) by 5pm central time. You may take tests early. Tests REQUIRE a scheduled test time. You must be registered in the UA chosen proctoring services (either Examity or Smarter proctoring) to take your test with the online proctoring format if using in- person proctoring. You cannot start your test if you do not have the full allotted time allowed. Be sure to schedule a time that allows your full time. You have 60 minutes for test 1-4 and 120 for the **comprehensive Final Exam**.

## TEST DEADLINES:

Test 1 - TBA

Test 2 - TBA

Test 3 - TBA

Test 4 - TBA

Final Exam - July 31st **comprehensive**

## Online Proctoring and Room Scan

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This course may include online proctored exams that may require a room scan of your testing environment using your webcam. The room scan is required to ensure academic integrity. It is your responsibility to identify a testing location that allows you to comfortably complete the room scan without compromising your personal privacy.

Students who are unable to identify an appropriate testing location for the room scan or who otherwise do not wish to take the exam online, should contact the course's instructor to discuss alternative testing options, including taking the exam in-person at an approved location. If you choose an in-person testing option, it is your responsibility to coordinate with the instructor to reserve your space in the testing location prior to the date of the exam. Additionally, you will be responsible for all fees associated with in-person proctoring and for presenting an approved form of identification at the testing location. Further, if the course uses any online exams developed by third party textbook publishers, you will also be subject to the publisher's terms and conditions related to online exams.

## **Grading Policy**

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### **COURSE GRADE**

Grades will be determined from homework, quizzes, 4 tests and a mandatory comprehensive final exam. The course grade will be determined by points earned as follows:

#### **I - HOMEWORK**

- All homework assignments are equally weighted.
- Extensions are granted automatically with a late penalty. See **Policy on Missed Exams and Coursework** for more details.

#### **II - TESTS**

- Number of points: 100 pts. each
- No make-up test will be given for any reason.
- For more details on missed tests, refer to the **Policy on Missed Exams and Coursework**.

#### **III - FINAL EXAM**

- Number of points: 100 pts.
- The final exam is mandatory and comprehensive - you must take the final exam!

### **GRADED ITEMS**

Your grade is weighted (percentages) as follows:

Assessment	Points/Weight
Homework	20%
Tests	50%
Final Exam	30%
<b>Total</b>	<b>100%</b>

### LETTER GRADES

Letter grades for this course will be assigned according to the following ranges:

### COURSE GRADE SCALE

A+ 98.0%-100%, A 92.0%-97.9%, A- 90.0%-91.9%

B+ 88.0%-89.9%, B 82.0%-87.9%, B- 80.0%-81.9%

C+ 78.0%-79.9%, C 72.0%-77.9%, C- 70.0%-71.9%

NC ("no credit") below 70%

Students must earn at least 70% (C-) to pass this course.

## Policy on Missed Exams and Coursework

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- Life can be unpredictable, and there may be times when you are unable to meet an assignment deadline or take a test. To accommodate such situations, we have established automatic policies to help you stay on track. Rather than scheduling makeups, we offer automatic deadline extensions with a penalty and/or the opportunity to drop certain scores at the end of the semester, as outlined in the following sections:
  - **Tests:** If you are unable to take a test at its scheduled time due to illness, travel, or any other reason, your lowest test score will automatically be dropped at the end of the term. If you miss a second test due to special circumstances, you may submit a petition at <https://mtlc.ua.edu/petition/> with supporting documentations.
  - **Final Exam:** The final exam cannot be dropped nor replaced. Do not miss the final!
  - **Homework and Quiz Assignments:** If **homework and quiz** assignments are not completed on time for any reason (sickness, travel, bad day, etc.), you may request an automatic extension in WebAssign within 7 days of the deadline and complete the assignment by the new deadline for up to 77% partial credit (a 30% penalty for being late, but a 10% bonus if completed early relative to the new deadline). Only the work submitted after the original deadline will get partial credit; all work submitted before the original deadline gets full credit. Any assignments not attempted will be scored 0. Your lowest 3 homework scores will be automatically dropped at the end of term.

- Even though WebAssign may extend an assignment past the end of the semester, only work submitted by 8am Monday of final exam week will count towards your final grade.
- 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.
- Students who will miss any assignment deadlines due to official University or military business must submit official documents to [mtlc.ua.edu/petition/](https://mtlc.ua.edu/petition/) **at least 3 business days before absence** to allow arrangements to be made.
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You have a limited number of drops for the semester. It's important to complete all work on time and take each assignment and test seriously. Do not rely on earlier assignments as drops in case a situation arises later. The lowest scores will be dropped at the end of the semester after all assignments are past due. Do your best on every assignment!

## Attendance Policy

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Students are expected to attend class.

## Generative AI Tools

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### AI use is not allowed

All submitted work must be produced by the students themselves, whether individually or collaboratively. Use of a generative AI tools such as ChatGPT to complete an assignment constitutes academic misconduct.

## 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. Sit in assigned seats prior to the start of the exam.
2. Require you to move to a new seat during the exam.

If you experience a disability requiring adaptive technology that could be mistaken for an unauthorized electronic device, please notify your instructor prior to the test.

### **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.

## **Student Resources**

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The University of Alabama provides resources and support for the benefit of all students. An up-to-date list of these resources is located on the [Division of Student Life website](#), which includes information regarding counseling, health and wellness, career planning, and accessibility services.