BIOL 4373-120 Immunology  
CRN 10575  
Spring 2020  
Texas A&M University-Central Texas

COURSE DATES, MODALITY, AND LOCATION

Course dates: January 13th - May 6th  
Warrior Hall, Rm 311  
1:00-2:15pm, Mondays and Wednesdays  
This course meets face-to-face two times a week, and students are expected to be prepared for class by reading the chapter and doing the required homework to turn in for each chapter.

This course uses the A&M-Central Texas Canvas Learning Management System [https://tamuct.instructure.com].

INSTRUCTOR AND CONTACT INFORMATION

Instructor: Angela Parsons  
Phone: 512-695-1612  
Email: aparsons@tamuct.edu

Office Hours  
I will be available by appointment.

Student-instructor interaction

I will check my email once a day, but if you have an urgent question or would like to schedule a time for help, call my cell phone or text me. Make sure you identify yourself if you text me.

WARRIOR SHIELD
Emergency Warning System for Texas A&M University-Central Texas

Warrior Shield is an emergency notification service that gives Texas A&M University-Central Texas the ability to communicate health and safety emergency information quickly via email, text message, and social media. All students are automatically enrolled in Warrior Shield through their myCT email account.

Connect to Warrior Shield by 911Cellular [https://portal.publicsafetycloud.net/Account/Login] to change where you receive your alerts or to opt out. By staying enrolled in Warrior Shield, university officials can quickly pass on safety-related information, regardless of your location.
COURSE INFORMATION
Course Overview and description

Three hours of lecture per week. Prerequisite: BIOL 4470
Comprehensive introduction to the immune system. Topics covered will include the
innate and adaptive components. The duality of the adaptive immune system will be considered
through discussion of humoral and cell-mediated immunity. Other topics to be covered include
the development of immune cells and the diversity and specificity of antibodies and T cell
receptors. Clinical aspects of immunology will be explored through case studies that bridge
course material with diseases and disorders of the immune system.

Course Objectives/ Student Learning Outcomes
Students will:
1. Become familiar with the cells and organs of the immune system.
2. Distinguish between innate and adaptive immunity and appreciate the connections between the
two divisions of the immune system.
3. Become familiar with the genes, receptors, and effector molecules of the immune system.
4. Explore the mechanisms by which the immune system functions and malfunctions.
5. Explore the clinical aspects of immunology through discussions of case studies.
6. Become familiar with primary and new immunology research.

Required Text:

Jones, P., Owen, J., Punt, J., Stranford, S. 2019 Kuby Immunology, 8th ed. W.H. Freeman and

COURSE REQUIREMENTS
Course Requirements:

Four lecture exams 50% 100 points each
Exam 1 Chapters 1-5, includes SLOs 1-6
Exam 2 Chapters 6-10, includes SLOs 1-6
Exam 3 Chapters 11,12,13,15, includes SLOs 1-6
Exam 4 Chapters 16, 17, 18, 19, includes SLOs 1-6

Final comprehensive exam 20% 100 points
Includes SLOs 1-6

Chapter HW and case studies 25%
Includes SLOs 1-6

Participation/attendance 5%
Grading Criteria Rubric and Conversion

A 4.00 (90 +) Achievement that is outstanding relative to the level necessary to meet course requirements.
B 3.00 (80-89%) Achievement that is significantly above the level necessary to meet course requirements.
C 2.00 (70–79%) Achievement that meets the course requirements in every respect.
D 1.00 (60–69%) Achievement that is worthy of credit even though it fails to meet fully course requirements.
F 0.00 (<60%) Represents failure and signifies that the work was either (1) completed but at a level of achievement that is not worthy of credit or (2) was not completed and there was no agreement between the instructor and the student that the student would be awarded an “I” (incomplete).
I (Incomplete) The “I” shall be assigned at the discretion of the instructor when, due to extraordinary circumstances, the student was prevented from completing the work of the course on time. The assignment of an “I” requires a written agreement between the instructor and student specifying the time and manner in which the student will complete the course requirements. In no event may any such written agreement allow a period of longer than one year to complete the course requirements. For graduate and professional students, an “I” is to remain on the transcript until changed by the instructor or department. For all other students, work to make up an I must be submitted within one year of the last day of final examinations of the term in which the “I” was given; if not submitted by that time, then the “I” will automatically change to an F.

To obtain an incomplete you must have been doing passing work in the course

Posting of Grades

Grades will be posted in a timely manner, so check Canvas to see your grades.

Grading Policies

Grading Policy and Point Breakdown. Grades in this course will be criteria-based on a number of activities including exams, homework, discussion and case studies. This means that grades will not be curved and anyone achieving a 90% or above will receive an A in this course.

Grade Dispute Policy. Grading disputes must be put in writing (with justification such as supporting statements from the text or another credible source) and given to me no earlier than 24 hours after the assignment has been returned. I will consider your request carefully, but reserve the right to adjust your grade up or down.

Assignments. These will consist of the answers to questions from each chapter as well as case studies I will give you from topics in some chapters. All assignments are to be turned in at the start of class listed on the calendar in this syllabus, and handed directly to the instructor. They should be done completely and in your own words. They must be handwritten and not computer generated. I will not accept e-mailed assignments of
any kind. Be prepared to lead the discussion of each question when asked.

**Late Assignments.** I expect all assignments to be turned in on time. Late assignments interfere with my ability to provide timely, detailed feedback, as well as with your ability to learn and process new material. Accordingly, any unauthorized late assignment will receive a 50% reduction in grade for each day it is late. No assignment will be accepted after it has been graded and returned, or after the exam has been given over the material.

**Exams.** The exams will be a mixture of multiple choice and short and long answer, designed to provoke reflection, critical thought, and application of knowledge. You will receive a review guide before every exam. You are encouraged to prepare for the exam by reviewing reading materials, outlining a draft of a response, and discussing these thoughts with your peers. You will then demonstrate your individual, integrated thoughts on the topic in a closed-book exam during the class period.

**Missed exams.** If you know you will miss an exam, please contact me BEFORE the exam. I will gladly give make-up exams if the student has an unavoidable reason for missing the exam (i.e. death in the family, severe illness). Keep in mind that I will expect documentation of your reason for missing the exam (e.g. doctor’s note, obituary notice). Exams must be made up within one week of the original scheduled date, no exceptions regardless of excuse. You will have to contact the Testing Center to schedule a time as soon as I determine that you will be allowed to take a make up exam.

**What I expect of you.** To get the most out of this class, you are expected to conduct yourself in a professional manner, which includes contributing to class discussions, being punctual, and notifying me of absences in advance. I do not want to see any cell phones out ever for any reason.

**Class Attendance.** I expect that you attend each class session and arrive on time. If an unavoidable situation arises that prevents you from attending class, I expect that you also promptly contact me to discuss the missed material and get the notes from a classmate. I will not distribute my notes to students as they are often abbreviated and do not contain the detail needed to sufficiently understand the material. The power points are from the text, and are excellent.

**What you can expect of me.** You can expect me to start and end class on time, be available through office hours, e-mail, and by appointment, be responsive to student suggestions for course improvement, answer questions to the fullest extent possible and/or direct you to appropriate resources, return graded assignments and exams within a reasonable time frame, and treat you with respect as future colleagues.

**Discussion.** The topics in this class encompass a diversity of issues that merit in-depth thought and discussion. Since individuals will be expressing their opinions, I expect that will you respect others’ contributions, as you would want them to do for you. Your participation, your engagement in the class and your contributions to the discussion and review of the topic for that class period will all enable you to get the most out of the course.

**Credits and Workload expectations.** For undergraduate courses, one credit is defined as equivalent to an average of two hours of learning effort per week (over a full semester) necessary for an average student to receive an average grade for the course. A student taking a four-credit class that meets for four hours a week should expect to spend an additional eight hours a week outside the classroom in order to earn an average grade.

**Class Structure.** Classes will involve a balance of active lecture and engaging learning
activities. I believe that students learn the theories and concepts much better when they have an active role. I know that this may be new to some of you, but please keep an open mind and I know that you will get more out of this class because of it.

NOTE! The following Science policies are now in effect:

a. Lecture courses

i. Exams

1. There will be no bathroom breaks allowed during any exam. Be sure that you address this issue before beginning an exam.

2. Any student needing to take an exam at a different time as rest of students due to sickness or other accommodations will receive a different version of exam. This includes sickness, special accommodations, etc....

3. All students needing special accommodations must submit an accommodation form from the Office of Access and Inclusion listing the specific accommodations needed. Students are responsible for scheduling their own exam times with the TAMUCT Testing Center.

4. Any student missing an exam in class for any other reason (i.e. illness, death in family, etc....) must provide documentation for missing the exam (e.g. doctor’s note, obituary notice, etc....). Exams must be made up within one week of original scheduled date, no exceptions.

5. Cell phones, smart watches, backpacks, coats, jackets, sweaters, purses, headphones, air pods and all other personal items must be handed to the teacher to be placed in front of the room, to be picked up by students when they hand in the exam.

6. No jackets or sweaters may be worn without discussing with the instructor, and no jackets, sweaters or other items may be placed over the student’s legs or any other body part while they are taking the test.
COURSE OUTLINE AND CALENDAR
Complete Course Calendar

1/13  Chapter 1 Overview of Immune System, HW due
1/15  Chapter 2 Cells, Organs, etc, HW due
1/20  HOLIDAY
1/22  Chapter 3 Recognition and Response, HW due
1/27  Chapter 3 continued, HW due
1/29  Chapter 4 Innate Immunity, HW due
2/3   Chapter 4 continued, HW due
2/5   Chapter 5, HW due, review for exam
2/10  TEST CHAPTERS 1-5
2/12  Chapter 6 Lymphocyte Receptors, HW due
2/17  Chapter 7 Major Histocompatibility Complex, HW due
2/19  Chapter 8 T Cell Development, HW due
2/24  Chapter 9 B Cell Development, HW due
2/26  Chapter 10 T cell Activation, HW due
3/2   Chapter 10 continued, HW due and review for exam
3/4   TEST CHAPTERS 6-10
Spring Break!
3/16  Chapter 11 B Cell Activation, HW due
3/18  Chapter 12 Effector Response, HW due
3/23  Chapter 13 Barrier Immunity, HW due
3/25  Chapter 15 Allergy, Hypersensitivity, HW due
3/30  Chapter 15 continued, HW due and review for exam
4/1   TEST CHAPTERS 11,12,13,15
4/6   Chapter 16 Tolerance, Autoimmunity, Transplantation, HW due
4/8   Chapter 16 continued, HW due
4/13  Chapter 17 Infectious Disease, HW due
4/15  Chapter 17 continued, start Chapter 18 Immunodeficiency Disease, HW due
4/20  Chapter 18 continued, HW due
4/22  Chapter 19 Cancer, HW due
4/27  Chapter 19 continued, HW due
4/29  TEST CHAPTERS 16,17,18,19
5/4   FINAL COMPREHENSIVE EXAM

Important University Dates

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<tr>
<th>Date</th>
<th>Event and Information</th>
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<tr>
<td>January 13, 2020</td>
<td>Add, Drop and Late Registration Begins for 16- and First 8-Week Classes $25 Fee assessed for late registrants</td>
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<tr>
<td>January 13, 2020</td>
<td>Classes Begin for Spring Semester</td>
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<td>Date</td>
<td>Event</td>
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<tr>
<td>January 15, 2020</td>
<td>Deadline for Add, Drop, and Late Registration for 16- and First 8-Week Classes</td>
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<td>January 20, 2020</td>
<td>Martin Luther King, Jr Day (University Closed)</td>
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<td>January 21, 2020</td>
<td>Deadline to Drop First 8-Week Classes with No Record</td>
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<td>January 29, 2020</td>
<td>Deadline to Drop 16-Week Classes with No Record</td>
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<tr>
<td>February 21, 2020</td>
<td>Deadline to Drop First 8-Week Classes with a Quit (Q) or Withdraw (W)</td>
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<td>March 1, 2020</td>
<td>Deadline for Teacher Education and Professional Certification Applications</td>
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<td>March 6, 2020</td>
<td>Classes end for 1st 8-Weeks</td>
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<td>March 9-12, 2020</td>
<td>Spring Break (No Classes - Administrative Offices Open)</td>
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<tr>
<td>March 13, 2020</td>
<td>Spring Break (University Closed)</td>
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<tr>
<td>March 10, 2020</td>
<td>Deadline for Faculty Submission of First 8-Week Final Class Grades (due by 3pm)</td>
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<td>March 15, 2020</td>
<td>Deadline for Clinical Teaching/Practicum Applications</td>
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<td>March 16, 2020</td>
<td>Add, Drop, and Late Registration Begins for Second 8-Week Classes $25 Fee assessed for late registrants</td>
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<td>March 16, 2020</td>
<td>Classes Begin for Second 8-Week Session</td>
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<td>March 16, 2020</td>
<td>Class Schedule Published for Summer Semester</td>
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<td>March 18, 2020</td>
<td>Deadline for Add, Drop, and Late Registration for Second 8-Week Classes</td>
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<tr>
<td>March 23, 2020</td>
<td>Deadline to Drop Second 8-Week Classes with No Record</td>
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<tr>
<td>March 27, 2020</td>
<td>Deadline for Graduation Application for Ceremony Participation</td>
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<tr>
<td>March 30, 2020</td>
<td>Registration Opens for Seniors, Post-Bacc, and Graduate Students for Summer Semester</td>
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April 3, 2020  Deadline to Drop 16-Week Classes with a Quit (Q) or Withdraw (W)

April 6, 2020  Registration opens for all students for the Summer and Fall Semesters

April 24, 2020  Deadline to Drop Second 8-Week Classes with a Quit (Q) or Withdraw (W)

May 8, 2020  Deadline for Applications for Tuition Rebate for Spring Graduation (5pm)

May 8, 2020  Deadline for Degree Conferral Applications to the Registrar's Office. $20 Late Application Fee.

May 8, 2020  Deadline to Withdraw from the University for 16- and Second 8-Week Classes

May 8, 2020  Spring Semester Ends

TECHNOLOGY REQUIREMENTS AND SUPPORT

Technology Requirements
This course will use the A&M-Central Texas Instructure Canvas learning management system. We strongly recommend the latest versions of Chrome or Firefox browsers. Canvas no longer supports any version of Internet Explorer.

Logon to A&M-Central Texas Canvas [https://tamuct.instructure.com/] or access Canvas through the TAMUCT Online link in myCT [https://tamuct.onecampus.com/]. You will log in through our Microsoft portal.

Username: Your MyCT email address. Password: Your MyCT password

Canvas Support
Use the Canvas Help link, located at the bottom of the left-hand menu, for issues with Canvas. You can select “Chat with Canvas Support,” submit a support request through “Report a Problem,” or call the Canvas support line: 1-844-757-0953.
For issues related to course content and requirements, contact your instructor.

Other Technology Support
For log-in problems, students should contact Help Desk Central
24 hours a day, 7 days a week
Email: helpdesk@tamu.edu
Phone: (254) 519-5466
Web Chat: [http://hdc.tamu.edu]

Please let the support technician know you are an A&M-Central Texas student.
UNIVERSITY RESOURCES, PROCEDURES, AND GUIDELINES

Drop Policy
If you discover that you need to drop this class, you must complete a Drop Request Form [https://www.tamuct.edu/registrar/docs/Drop_Request_Form.pdf].

Professors cannot drop students; this is always the responsibility of the student. The Registrar’s Office will provide a deadline on the Academic Calendar for which the form must be completed, signed and returned. Once you return the signed form to the Registrar’s Office, you must go into Warrior Web and confirm that you are no longer enrolled. If you still show as enrolled, FOLLOW-UP with the Registrar’s Office immediately. You are to attend class until the procedure is complete to avoid penalty for absence. Should you miss the drop deadline or fail to follow the procedure, you will receive an F in the course, which may affect your financial aid and/or VA educational benefits.

Academic Integrity
Texas A&M University-Central Texas values the integrity of the academic enterprise and strives for the highest standards of academic conduct. A&M-Central Texas expects its students, faculty, and staff to support the adherence to high standards of personal and scholarly conduct to preserve the honor and integrity of the creative community. Academic integrity is defined as a commitment to honesty, trust, fairness, respect, and responsibility. Any deviation by students from this expectation may result in a failing grade for the assignment and potentially a failing grade for the course. Academic misconduct is any act that improperly affects a true and honest evaluation of a student’s academic performance and includes, but is not limited to, working with others in an unauthorized manner, cheating on an examination or other academic work, plagiarism and improper citation of sources, using another student’s work, collusion, and the abuse of resource materials. All academic misconduct concerns will be referred to the university’s Office of Student Conduct. Ignorance of the university’s standards and expectations is never an excuse to act with a lack of integrity. When in doubt on collaboration, citation, or any issue, please contact your instructor before taking a course of action.

For more information regarding the Student Conduct process, [https://www.tamuct.edu/student-affairs/student-conduct.html]. If you know of potential honor violations by other students, you may submit a report, [https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=0].

Academic Accommodations
At Texas A&M University-Central Texas, we value an inclusive learning environment where every student has an equal chance to succeed and has the right to a barrier-free education. The Office of Access and Inclusion is responsible for ensuring that students with a disability receive equal access to the university’s programs, services and activities. If you believe you have a disability requiring reasonable accommodations please contact the Office of Access and
Inclusion, WH-212; or call (254) 501-5836. Any information you provide is private and confidential and will be treated as such.

For more information please visit our Access & Inclusion Canvas page (log-in required) [https://tamuct.instructure.com/courses/717]

**Important information for Pregnant and/or Parenting Students**
Texas A&M University-Central Texas supports students who are pregnant and/or parenting. In accordance with requirements of Title IX and related guidance from US Department of Education’s Office of Civil Rights, the Dean of Student Affairs’ Office can assist students who are pregnant and/or parenting in seeking accommodations related to pregnancy and/or parenting. Students should seek out assistance as early in the pregnancy as possible. For more information, please visit Student Affairs [https://www.tamuct.edu/student-affairs/index.html]. Students may also contact the institution’s Title IX Coordinator. If you would like to read more about these requirements and guidelines online, please visit the website [http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf].

Title IX of the Education Amendments Act of 1972 prohibits discrimination on the basis of sex and gender—including pregnancy, parenting, and all related conditions. A&M-Central Texas is able to provide flexible and individualized reasonable accommodation to pregnant and parenting students. All pregnant and parenting students should contact the Associate Dean in the Division of Student Affairs at (254) 501-5909 to seek out assistance. Students may also contact the University’s Title IX Coordinator.

**Tutoring**
Tutoring is available to all A&M-Central Texas students, both on-campus and online. Subjects tutored on campus include Accounting, Advanced Math, Biology, Finance, Statistics, Mathematics, and Study Skills. Tutors are available at the Tutoring Center in Warrior Hall, Suite 111. Tutor.com tutoring will not offer writing support beginning August 1, 2019, but will continue to offer other tutoring support.

If you have a question regarding tutor schedules, need to schedule a tutoring session, are interested in becoming a tutor, or have any other question, contact Academic Support Programs at (254) 501-5836, visit the Office of Student Success at 212F Warrior Hall, or by emailing studentsuccess@tamuct.edu.

Chat live with a tutor 24/7 for almost any subject from on your computer! Tutor.com is an online tutoring platform that enables A&M-Central Texas students to log in and receive online tutoring support at no additional cost. This tool provides tutoring in over 40 subject areas. Access Tutor.com through Canvas.

**University Writing Center**
Located in Warrior Hall 416, the University Writing Center (UWC) at Texas A&M University–
Central Texas (TAMUCT) is a free workspace open to all TAMUCT students from 10:00 a.m.-5:00 p.m. Monday thru Thursday with satellite hours in the University Library Monday thru Thursday from 6:00-9:00 p.m. This semester, the UWC is also offering online only hours from 12:00-3:00 p.m. on Saturdays.

Tutors are prepared to help writers of all levels and abilities at any stage of the writing process. While tutors will not write, edit, or grade papers, they will assist students in developing more effective composing practices. By providing a practice audience for students’ ideas and writing, our tutors highlight the ways in which they read and interpret students’ texts, offering guidance and support throughout the various stages of the writing process. In addition, students may work independently in the UWC by checking out a laptop that runs the Microsoft Office suite and connects to WIFI, or by consulting our resources on writing, including all of the relevant style guides. Whether you need help brainstorming ideas, organizing an essay, proofreading, understanding proper citation practices, or just want a quiet place to work, the UWC is here to help!

Students may arrange a one-to-one session with a trained and experienced writing tutor by visiting the UWC during normal operating hours (both half-hour and hour sessions are available) or by making an appointment via WConline [https://tamuct.mywconline.com/]. In addition, you can email Dr. Bruce Bowles Jr. at bruce.bowles@tamuct.edu if you have any questions about the UWC and/or need any assistance with scheduling.

**University Library**

The University Library provides many services in support of research across campus and at a distance. We offer over 200 electronic databases containing approximately 250,000 eBooks and 82,000 journals, in addition to the 85,000 items in our print collection, which can be mailed to students who live more than 50 miles from campus. Research guides for each subject taught at A&M-Central Texas are available through our website to help students navigate these resources. On campus, the library offers technology including cameras, laptops, microphones, webcams, and digital sound recorders.

Research assistance from a librarian is also available 24 hours a day through our online chat service, and at the reference desk when the library is open. Research sessions can be scheduled for more comprehensive assistance, and may take place on Skype or in-person at the library. Assistance may cover many topics, including how to find articles in peer-reviewed journals, how to cite resources, and how to piece together research for written assignments.

Our 27,000-square-foot facility on the A&M-Central Texas main campus includes student lounges, private study rooms, group work spaces, computer labs, family areas suitable for all ages, and many other features. Services such as interlibrary loan, TexShare, binding, and laminating are available. The library frequently offers workshops, tours, readings, and other events. For more information, please visit our Library website [http://tamuct.libguides.com/index].
OPTIONAL POLICY STATEMENTS

A Note about Sexual Violence at A&M-Central Texas
Sexual violence is a serious safety, social justice, and public health issue. The university offers support for anyone struggling with these issues. University faculty are mandated reporters, so if someone discloses that they were sexually assaulted (or a victim of Domestic/Dating Violence or Stalking) while a student at TAMUCT, faculty members are required to inform the Title IX Office. If you want to discuss any of these issues confidentially, you can do so through Student Counseling (254-501-5955) located on the second floor of Warrior Hall (207L).

Sexual violence can occur on our campus because predators often feel emboldened, and victims often feel silenced or shamed. It is incumbent on ALL of us to find ways to actively create environments that tell predators we don’t agree with their behaviors and tell survivors we will support them. Your actions matter. Don’t be a bystander; be an agent of change. For additional information on campus policy and resources visit the Title IX webpage [https://www.tamuct.edu/departments/compliance/titleix.php].

Behavioral Intervention
Texas A&M University-Central Texas cares about the safety, health, and well-being of its students, faculty, staff, and community. If you are aware of individuals for whom you have a concern, who are exhibiting concerning behaviors, or individuals causing a significant disruption to our community, please make a referral to the Behavioral Intervention Team. Referring your concern shows you care. You can complete the referral online [https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=2].

Anonymous referrals are accepted. Please see the Behavioral Intervention Team website for more information [https://www.tamuct.edu/student-affairs/bat.html]. If a person’s behavior poses an imminent threat to you or another, contact 911 or A&M-Central Texas University Police at 254-501-5800.

OTHER POLICIES

Copyright Notice
Students should assume that all course material is copyrighted by the respective author(s). Reproduction of course material is prohibited without consent by the author and/or course instructor. Violation of copyright is against the law and Texas A&M University-Central Texas’ Code of Academic Honesty. All alleged violations will be reported to the Office of Student Conduct.

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