

**Cardiovascular Physiology of Exercise**  
**KINE 6200.001      Wednesday 6:30 PM – 9:20 PM      PEB 219**

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**Instructor:** Sarah E. Deemer, PhD, CSCS      [Sarah.Deemer@unt.edu](mailto:Sarah.Deemer@unt.edu)  
*Office hours will be available by appointment. Please email me in advance, and I will make sure we get a meeting set up!*

**Welcome to UNT!!**

As members of the UNT community, we have all made a commitment to be part of an institution that respects and values the identities of the students and employees with whom we interact. UNT does not tolerate identity-based discrimination, harassment, and retaliation. UNT's full Non-Discrimination Policy can be found in the UNT Policies section of the syllabus.

**Prerequisites (recommended):**

Basic biology course, anatomy & physiology course, exercise physiology and/or advanced exercise physiology

**Text:**

Advanced Cardiovascular Exercise Physiology.

Authors: Denise L. Smith & Bo Fernhall

Publisher: Human Kinetics (2011)

*\*Note: Please email me if you need help with finding the textbook/covering the cost of the textbook*

**Course Description:**

A study of the cardiovascular responses of normal and patient populations to acute and chronic bouts of exercise. Particular emphasis is given to the use of exercise as a treatment modality for cardiac- and pulmonary-impaired patients in a clinical environment.

**Course Overview:**

Upon successful completion of this course, the student should be able to:

1. Identify the components of a high-quality published research article from PubMed and reflect on the knowledge that was gained from reading the selected research article.
2. Describe in detail the anatomy and physiology that underlies cardiovascular function at rest and in response to various exercise challenges. The student will also be able to describe the mechanism(s) that underlie training associated improvements in cardiovascular function.
3. Be familiar with common laboratory techniques used to measure cardiovascular health and function. Be able to describe how the techniques work and give examples of how they could be used to answer specific experimental questions.

**Course Philosophy:**

This is a 6000-level graduate course, which means this should be a learning experience for everyone involved, including myself! Therefore, everyone has an A, unless they blow-off or really screw up their presentations, never get involved in class discussion and/or lab experiences, or do not "carry their weight" within their group in writing the Cardiovascular Lab Report. Your contribution to assignments/presentations will be evaluated by your peers at the end of the semester. **Please feel free to ask anything in class related to the topic, in at least some fashion, and let's make this a fun, interactive learning experience.**

**Course Expectations:**

1. **Keeping up with course materials:** It is imperative that you stay on task and prepare for each class period in a timely manner. You will be responsible for having read the associated chapter(s) prior to coming to class.
2. **Class Attendance:** Students who attend class tend to earn higher grades. This class will be a combination of lecture and experiential learning and thus attendance is paramount to success.
3. If you have any special learning needs, please inform the instructor immediately.
4. If at any point during the semester you are unhappy with your performance in this class, please contact the instructor **immediately**.
5. **Academic dishonesty** will not be tolerated (i.e., copying, plagiarism, cheating) and will result in a failing grade for the semester.

## **How the class will work:**

The first hour or so of the class we will be in the classroom (~6:30 – 7:30 PM), while the remaining time of the class we will do lab-based activities or you will be working on data collection and analysis for your laboratory project (explained in more detail below). During the lecture portion of the class, I will cover the sections that come from the Rowell textbook (Human Cardiovascular Control) which will be provided as handout readings. And you and your partner will pick a week and be responsible for teaching a section to the class (topics outlined on the '[Tentative Order of Topics](#)' table) from the 'Advanced Cardiovascular Exercise Physiology' textbook. More guidelines will be provided on your teaching during the first class session. Further, towards the end of the class, your laboratory group will pick a recently published journal article and lead a roundtable 'journal club' style discussion. This is different from teaching, as you will be working on *facilitating discussion* and *promoting critical thinking* through the analysis of the paper, as well as guiding the discussion into the development of the 'next steps.' Your final exam at the end of the semester will be a take-home exam, and will be comprehensive of material learned throughout the semester.

## **Evaluation:**

Final grades will be determined based on the total number of points that you accumulate during the semester. Final letter grades will be determined using the grading scale provided below:

<b>Component</b>	<b>% Final Grade</b>
Attendance/Class Participation	5%
Student Teaching Presentation	15%
Journal Club Presentation	10%
Cardiovascular Lab Assignment	30%
Final Exam	30%
Peer Evaluation of Teammates	10%
<b>Total</b>	<b>100%</b>

## **Grading Scale**

<b>FINAL GRADE</b>	<b>PERCENTAGE</b>
<b>A</b>	89.51% – 100%
<b>B</b>	79.51% – 89.50%
<b>C</b>	69.51% – 79.50%
<b>D</b>	59.51% – 69.50%
<b>F</b>	< 59.51%

Students will not be allowed to take an incomplete in this course due to poor planning on their part. If you find you do have a legitimate reason for an incomplete, please talk with me as soon as possible to discuss the situation and to identify the documentation that will be required to support your request. Please consult the UNT catalog to review conditions under which an incomplete may be granted.

## **Student Presentations:**

On the first day of class you will pick a partner and a chapter/topic from the syllabus that you "teach" the class about. You and your partner should develop a lecture on the topic as well as a method of assessing student learning of the topic (quiz, jeopardy game, kahoot, etc...the sky is the limit!). Each presentation and assessment should last approximately 1 hour.

## **Journal Club Roundtable Discussion**

Towards the end of the semester, your laboratory group will pick a recently published paper within the field of cardiovascular exercise physiology to discuss in class within a roundtable format. As a group, you should be able to lead/facilitate the discussion. It should not really be a lecture/type format, but considered more of a group discussion of the science. Similar to the teaching presentation, this discussion should last approximately 1 hour. The following link provides a good overview of how to lead a journal club discussion:

<https://irp.nih.gov/blog/post/2015/03/5-tips-for-journal-club-first-timers>

### **Cardiovascular Laboratory Assignment:**

On the first day of class, you will create your laboratory group that you will work with throughout the semester. The idea behind this experience is for you to become familiar with the scientific process. During the first part of the semester your group will develop a scientific question to be asked and the methods through which you can best answer the question. After approval of your study design, you will be able to use the laboratory-based class times to begin collecting data to answer your specific question. At the end of the semester, your group will provide a presentation of your research study as well as turn in an in-depth written lab report which will be formatted similar to a submitted journal publication (see guidelines here under manuscript preparation guidelines: <https://www.ahajournals.org/submission-requirements>).

In short, your submitted report will include:

- Title Page
- Abstract
- Introduction
- Methods
- Results – which will include tables and figures/figure legends within the text
- Discussion
- References

### **Peer Evaluation of Teammates:**

At the end of the semester, each student will be required to anonymously evaluate each other member of his or her group. On the evaluation form, you will be asked to give qualitative feedback to each member and award points to the other members of your team. You will be evaluated by the other members of your team based on your preparedness, contribution, and collegiality.

### **Final Exam:**

During this class you will complete a final exam, which will be cumulative of the semester. This test will be given as a take-home exam and you will be expected to complete these tests individually. The final exam will be worth 30% of your grade. Final exams are due to me in my email box on May 11 by 10:00 PM. **No late exams will be accepted.**

### **Attendance/Class Participation Grading Criteria:**

<b>Grade (points)</b>	<b>Quantity of Participation (Attendance)</b>	<b>Quality of Participation</b>
100	Participates on a regular basis	<ul style="list-style-type: none"><li>• High quality and insightful comments</li><li>• Clear evidence of having read the attendant material(s) (each class period)</li></ul>
95	Participates on a regular basis	<ul style="list-style-type: none"><li>• Good quality comments</li><li>• Evidence of having read the attendant material(s) (each class period)</li></ul>
90	Participates occasionally	<ul style="list-style-type: none"><li>• High quality &amp; insightful comments</li><li>• Clear evidence of having read the attendant material(s) (each class period)</li></ul>
85	Participates occasionally	<ul style="list-style-type: none"><li>• Good quality comments</li><li>• Evidence of having read the attendant material(s) (each class period)</li></ul>
80	Rarely participates	<ul style="list-style-type: none"><li>• High quality &amp; insightful comments</li><li>• Evidence of having read the attendant material(s) (each class period)</li></ul>
75	Rarely participates	<ul style="list-style-type: none"><li>• Good quality comments</li></ul>
50	Rarely participates	<ul style="list-style-type: none"><li>• Fair quality comments</li></ul>

### **COVID-19 Impact on Attendance**

While attendance is expected as outlined above, it is important for all of us to be mindful of the health and safety of everyone in our community, especially given concerns about COVID-19. PLEASE CONTACT ME IF YOU ARE UNABLE TO ATTEND CLASS BECAUSE YOU ARE ILL, OR UNABLE TO ATTEND CLASS DUE TO A RELATED ISSUE REGARDING COVID-19. **It is important that you communicate with me prior to being absent or missing an assignment** so I may make a decision about accommodating your request to be excused from class.

If you are experiencing any symptoms of COVID-19 (<https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>) please seek medical attention from the Student Health and Wellness Center (940-565-2333 or askSHWC@unt.edu) or your health care provider PRIOR to coming to campus. UNT also requires you to contact the UNT COVID Team at COVID@unt.edu for guidance on actions to take due to symptoms, pending or positive test results, or potential exposure.

### **Statement on Face Coverings**

UNT encourages everyone to wear a face covering when indoors, regardless of vaccination status, to protect yourself and others from COVID infection, as recommended by current CDC guidelines. Face covering guidelines could change based on community health conditions.

### **The culture of the classroom:**

*We're all in this together. As your instructor, I will strive to:*

- Be prepared
- Give fair exams and grade in a fair and consistent manner
- Be accessible to students outside of class
- Be understanding and helpful when students are uncertain of the material
- Be open to questions
- Convey a sense of priority, i.e., identify important material
- Give ample time to complete assignments and remind students of due dates.
- Respect each student's opinions, priorities, strengths and weaknesses.

*In return, I ask that you as the students to:*

- Communicate in a professional and responsible fashion, informing me and your teammates in the event of absences.
- Be a cooperative and engaged member of your team
- Constructively participate in all classroom activities
- Arrive on time.
- Turn off (not just silence) phones and other devices.
- Refrain from activities that disengage you from the class or distract others. This includes using electronic devices for text-messaging, reading, browsing, etc. and chatting with neighbors in a way that distracts others.
- Inform me before class if you need to leave class early or if you need to be prepared for emergency communication.

## Tentative Order of Topics:

Start Date	Learning Module Topic	Presenter(s)
1/19	<i>In-Class:</i> Syllabus, Course Overview, Overview of the Cardiovascular System <i>Laboratory:</i> Basics of Blood Pressure Measurement	<b>Deemer</b>
1/26	<i>Reading:</i> Chapter 3 (Cardiac Myocytes) <i>Laboratory:</i> Exercising Blood Pressure Measurement	
2/2	<i>Reading:</i> Chapter 4 (Electrical Activity of the Heart), Chapter 5 (the Electrocardiogram) <i>In-Class Activity:</i> Beginning ECG Interpretation	
2/9	<i>Reading:</i> Rowell Handout "Central Circulatory Adjustments to Dynamic Exercise" <i>Laboratory:</i> Introduction to Cardiovascular Lab	<b>Deemer</b>
2/16	<i>Reading:</i> Chapter 9 (Cardiovascular Responses to Acute Aerobic Exercise) <i>Laboratory:</i> Literature Search and Develop Aims for Cardiovascular Lab	
2/23	<i>Reading:</i> Chapter 10 (Cardiovascular Responses to Aerobic Training) <i>Laboratory:</i> Finalize Aims and Begin Data collection for Cardiovascular Lab	
3/2	<i>Reading:</i> Chapter 11 (Cardiovascular Responses to Acute Resistance Exercise) <i>Laboratory:</i> Data collection for Cardiovascular Lab	
3/9	<i>Reading:</i> Chapter 12 (Cardiovascular Responses to Resistance Training) <i>Laboratory:</i> Data collection for Cardiovascular Lab	
<b>3/16</b>	<b>SPRING BREAK – NO CLASS</b>	
3/23	<i>Reading:</i> Rowell Handout "What Signals Govern the Cardiovascular Responses to Exercise? Role of Central Command" <i>Laboratory:</i> Data collection for Cardiovascular Lab	<b>Deemer</b>
3/30	<i>Reading:</i> Rowell Handout "What Signals Govern the Cardiovascular Responses to Exercise? Reflexes from Active Muscles" <i>Laboratory:</i> Data collection for Cardiovascular Lab	<b>Deemer</b>
4/6	<i>Reading:</i> (Paper TBD) <i>In-Class:</i> Roundtable 'Journal Club' Presentation/Discussion <i>Laboratory:</i> Data collection for Cardiovascular Lab	Group 1
4/13	<i>Reading:</i> (Paper TBD) <i>In-Class:</i> Roundtable 'Journal Club' Presentation/Discussion <i>In-Class Activity:</i> Compile data and begin data analysis for Cardiovascular Lab	Group 2
4/20	<i>Reading:</i> (Paper TBD) <i>In-Class:</i> Roundtable 'Journal Club' Presentation/Discussion <i>In-Class Activity:</i> Finish data analysis and begin working on lab report	Group 3
<b>4/27</b>	<b>Group Work Day – NO CLASS</b>	
<b>5/4</b>	<b>Group Presentation of Cardiovascular Lab to Class</b> Written Cardiovascular Lab Report Due <i>Take-Home Final handed out in class</i>	
<b>5/11</b>	<b>Take-Home Final Exam Due by 10:00 PM</b>	

**Note:** The following information is designed to help the class run smoothly. **The instructor reserves the right to make additions and adjustments as necessary.** Some of the writings, lectures, films, or presentations in this course may include material that conflicts with the core beliefs of some students. Please review the syllabus carefully to see if the course is one that you are committed to taking. If you have a concern, please discuss it with me at your earliest convenience.

## **Technical Support**

Student Helpdesk:

UIT Helpdesk  
Sage Hall 130  
940-565-2324  
helpdesk@unt.edu

## **Minimum Technology Requirements**

Minimum technology requirements include:

- Computer
- Reliable internet access
- Speakers
- Microphone
- Plug-ins
- **Microsoft Office Suite**
  - All assignments will be submitted as a Microsoft Word document. Microsoft Office 365 is provided free to you from the university and instructions for installation can be found here: <https://it.unt.edu/instaloffice365>. Assignments submitted/uploaded as a document other than Word will not be graded and receive a grade of 0. Please let me know if you have questions about this policy.
- Canvas Technical Requirements (<https://clear.unt.edu/supported-technologies/canvas/requirements>)

## **Computer Skills & Digital Literacy**

Course-specific technical skills learners must have to succeed in the course include:

- Using Canvas
- Using email with attachments
- Downloading and installing software
- Using spreadsheet programs
- Using presentation and graphics programs

## **Technical Assistance**

Part of working in the online environment involves dealing with the inconveniences and frustration that can arise when technology breaks down or does not perform as expected. Here at UNT we have a Student Help Desk that you can contact for help with Canvas or other technology issues.

UIT Help Desk: UIT Student Help Desk site (<http://www.unt.edu/helpdesk/index.htm>)

Email: [helpdesk@unt.edu](mailto:helpdesk@unt.edu)

Phone: 940-565-2324

In Person: Sage Hall, Room 130

Walk-In Availability: 8am-9pm

Telephone Availability:

- Sunday: noon-midnight
- Monday-Thursday: 8am-midnight
- Friday: 8am-8pm
- Saturday: 9am-5pm

Laptop Checkout: 8am-7pm

For additional support, visit Canvas Technical Help (<https://community.canvaslms.com/docs/DOC-10554-4212710328>)

# UNT Policies

## **Academic Integrity Policy**

Academic Integrity Standards and Consequences. According to UNT Policy 06.003, Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University.

## **ADA Policy**

UNT makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide a student with an accommodation letter to be delivered to faculty to begin a private discussion regarding one's specific course needs. Students may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the ODA website (<https://disability.unt.edu/>).

## **Prohibition of Discrimination, Harassment, and Retaliation (Policy 16.004)**

The University of North Texas (UNT) prohibits discrimination and harassment because of race, color, national origin, religion, sex, sexual orientation, gender identity, gender expression, age, disability, genetic information, veteran status, or any other characteristic protected under applicable federal or state law in its application and admission processes; educational programs and activities; employment policies, procedures, and processes; and university facilities. The University takes active measures to prevent such conduct and investigates and takes remedial action when appropriate.

## **Emergency Notification & Procedures**

UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public safety emergencies like chemical spills, fires, or violence). In the event of a university closure, please refer to Canvas for contingency plans for covering course materials.

## **Retention of Student Records**

Student records pertaining to this course are maintained in a secure location by the instructor of record. All records such as exams, answer sheets (with keys), and written papers submitted during the duration of the course are kept for at least one calendar year after course completion. Course work completed via the Canvas online system, including grading information and comments, is also stored in a safe electronic environment for one year. Students have the right to view their individual record; however, information about student's records will not be divulged to other individuals without proper written consent. Students are encouraged to review the Public Information Policy and the Family Educational Rights and Privacy Act (FERPA) laws and the University's policy. See UNT Policy 10.10, Records Management and Retention for additional information.

## **Acceptable Student Behavior**

Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Dean of Students to consider whether the student's conduct violated the Code of Student Conduct. The University's expectations for student conduct apply to all instructional forums, including University and electronic classroom, labs, discussion groups, field trips, etc. Visit UNT's Code of Student Conduct (<https://deanofstudents.unt.edu/conduct>) to learn more.

## **Access to Information - Eagle Connect**

Students' access point for business and academic services at UNT is located at: [my.unt.edu](http://my.unt.edu). All official communication from the University will be delivered to a student's Eagle Connect account. For more information, please visit the website that explains Eagle Connect and how to forward e-mail Eagle Connect (<https://it.unt.edu/eagleconnect>).

### **Student Evaluation Administration Dates**

Student feedback is important and an essential part of participation in this course. The student evaluation of instruction is a requirement for all organized classes at UNT. The survey will be made available during weeks 13, 14 and 15 [insert administration dates] of the long semesters to provide students with an opportunity to evaluate how this course is taught. Students will receive an email from "UNT SPOT Course Evaluations via IASystem Notification" (no-reply@iasystem.org) with the survey link. Students should look for the email in their UNT email inbox. Simply click on the link and complete the survey. Once students complete the survey they will receive a confirmation email that the survey has been submitted. For additional information, please visit the SPOT website (<http://spot.unt.edu/>) or email [spot@unt.edu](mailto:spot@unt.edu).

### **Sexual Assault Prevention**

UNT is committed to providing a safe learning environment free of all forms of sexual misconduct, including sexual harassment sexual assault, domestic violence, dating violence, and stalking. Federal laws (Title IX and the Violence Against Women Act) and UNT policies prohibit discrimination on the basis of sex, and therefore prohibit sexual misconduct. If you or someone you know is experiencing sexual harassment, relationship violence, stalking, and/or sexual assault, there are campus resources available to provide support and assistance. UNT's Survivor Advocates can assist a student who has been impacted by violence by filing protective orders, completing crime victim's compensation applications, contacting professors for absences related to an assault, working with housing to facilitate a room change where appropriate, and connecting students to other resources available both on and off campus. The Survivor Advocates can be reached at [SurvivorAdvocate@unt.edu](mailto:SurvivorAdvocate@unt.edu) or by calling the Dean of Students Office at 940-565- 2648.

Additionally, alleged sexual misconduct can be non-confidentially reported to the Title IX Coordinator at [oeo@unt.edu](mailto:oeo@unt.edu) or at (940) 565 2759.

### **Student Verification**

UNT takes measures to protect the integrity of educational credentials awarded to students enrolled in distance education courses by verifying student identity, protecting student privacy, and notifying students of any special meeting times/locations or additional charges associated with student identity verification in distance education courses.

See UNT Policy 07-002 Student Identity Verification, Privacy, and Notification and Distance Education Courses (<https://policy.unt.edu/policy/07-002>).

### **Use of Student Work**

A student owns the copyright for all work (e.g. software, photographs, reports, presentations, and email postings) he or she creates within a class and the University is not entitled to use any student work without the student's permission unless all of the following criteria are met:

- The work is used only once.
- The work is not used in its entirety.
- Use of the work does not affect any potential profits from the work.
- The student is not identified.
- The work is identified as student work.

If the use of the work does not meet all of the above criteria, then the University office or department using the work must obtain the student's written permission.



## **Download the UNT System Permission, Waiver and Release Form**

### Transmission and Recording of Student Images in Electronically-Delivered Courses

1. No permission is needed from a student for his or her image or voice to be transmitted live via videoconference or streaming media, but all students should be informed when courses are to be conducted using either method of delivery.
2. In the event an instructor records student presentations, he or she must obtain permission from the student using a signed release in order to use the recording for future classes in accordance with the Use of Student-Created Work guidelines above.
3. Instructors who video-record their class lectures with the intention of re-using some or all of recordings for future class offerings must notify students on the course syllabus if students' images may appear on video. Instructors are also advised to provide accommodation for students who do not wish to appear in class recordings.

Example: This course employs lecture capture technology to record class sessions. Students may occasionally appear on video. The lecture recordings will be available to you for study purposes and may also be reused in future course offerings.

No notification is needed if only audio and slide capture is used or if the video only records the instructor's image. However, the instructor is encouraged to let students know the recordings will be available to them for study purposes.

### **Class Recordings & Student Likenesses**

Synchronous (live) sessions in this course will be recorded for students enrolled in this class section to refer to throughout the semester. Class recordings are the intellectual property of the university or instructor and are reserved for use only by students in this class and only for educational purposes. Students may not post or otherwise share the recordings outside the class, or outside the Canvas Learning Management System, in any form. Failing to follow this restriction is a violation of the UNT Code of Student Conduct and could lead to disciplinary action.

## **Academic Support & Student Services**

### **Student Support Services**

#### **Mental Health**

UNT provides mental health resources to students to help ensure there are numerous outlets to turn to that wholeheartedly care for and are there for students in need, regardless of the nature of an issue or its severity. Listed below are several resources on campus that can support your academic success and mental well-being:

- Student Health and Wellness Center (<https://studentaffairs.unt.edu/student-health-and-wellness-center>)
- Counseling and Testing Services (<https://studentaffairs.unt.edu/counseling-and-testing-services>)
- UNT Care Team (<https://studentaffairs.unt.edu/care>)
- UNT Psychiatric Services (<https://studentaffairs.unt.edu/student-health-and-wellness-center/services/psychiatry>)
- Individual Counseling (<https://studentaffairs.unt.edu/counseling-and-testing-services/services/individual-counseling>)

#### **Chosen Names**

A chosen name is a name that a person goes by that may or may not match their legal name. If you have a chosen name that is different from your legal name and would like that to be used in class, please let the instructor know. Below is a list of resources for updating your chosen name at UNT.

- UNT Records
- UNT ID Card
- UNT Email Address
- Legal Name

\*UNT eUIDs cannot be changed at this time. The collaborating offices are working on a process to make this option accessible to UNT community members.

## **Pronouns**

Pronouns (she/her, they/them, he/him, etc.) are a public way for people to address you, much like your name, and can be shared with a name when making an introduction, both virtually and in-person. Just as we ask and don't assume someone's name, we should also ask and not assume someone's pronouns.

You can add your pronouns to your Canvas account so that they follow your name when posting to discussion boards, submitting assignments, etc.

Below is a list of additional resources regarding pronouns and their usage:

- What are pronouns and why are they important?
- How do I use pronouns?
- How do I share my pronouns?
- How do I ask for another person's pronouns?
- How do I correct myself or others when the wrong pronoun is used?

## **Additional Student Support Services**

- Registrar (<https://registrar.unt.edu/registration>)
- Financial Aid (<https://financialaid.unt.edu/>)
- Student Legal Services (<https://studentaffairs.unt.edu/student-legal-services>)
- Career Center (<https://studentaffairs.unt.edu/career-center>)
- Multicultural Center (<https://edo.unt.edu/multicultural-center>)
- Counseling and Testing Services (<https://studentaffairs.unt.edu/counseling-and-testing-services>)
- Pride Alliance (<https://edo.unt.edu/pridealliance>)
- UNT Food Pantry (<https://deanofstudents.unt.edu/resources/food-pantry>)

## **Academic Support Services**

- Academic Resource Center (<https://clear.unt.edu/canvas/student-resources>)
- Academic Success Center (<https://success.unt.edu/asc>)
- UNT Libraries (<https://library.unt.edu/>)
- Writing Lab (<http://writingcenter.unt.edu/>)