CSCE 3600 Principles of Systems Programming

Instructor Contact

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Pronouns: He/Him
Office Hours: Mon 3:30-4:30, Wed, Thurs 4:30-5:30
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Communication Expectations: The best way to reach me outside of class/office hours is via email. During the week I will respond to your email within 24 hours. During the weekend, response time may be longer. This includes personal concerns or questions about the class or an assignment. The TA’s and I strive to get grades back between 1-1.5 weeks from the due date, though that is not always possible when the class is large. Communication is expected to be professional and respectful. Online Communication Tips (https://clear.unt.edu/online-communication-tips) are available.

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.

Course Description

Introduction to the design and operation of systems software. Analysis is made of current system software technology, including operating systems, language translation systems and file systems.

Course Structure

This course is 3 credits, and is delivered online using Zoom over one semester (14 weeks). You will work individually on some assignments and in small groups for others.

The course calendar is presented later in this syllabus so that you can see the pace of this course and the due dates. Please keep in mind that the schedule may change slightly as the semester progresses to better meet the needs of students.

Course Prerequisites or Other Restrictions

The sole prerequisite for this course is CSCE 2100 (Computing Foundations I). This means that you have taken CSCE 1030 (Computer Science I) and CSCE 1040 (Computer Science II). You will also have taken MATH 1070 (Calculus I). I expect students to be comfortable designing and writing programs, and have a basic knowledge of data structures and algorithms. I recognise that students will not necessarily have completed CSCE 2610 (Assembly Language and Computer Organization) or a course in discrete mathematics. Both of these subjects will be helpful in this course, but we will have a very basic coverage of these topics along the way.
Course Objectives

Course outcomes are measurable achievements to be accomplished by the completion of a course. These outcomes are evaluated as part of our ABET accreditation process. By the end of this course, students will be able to:

1. Write robust, efficient, readable and correct system software using the C programming language.
2. Demonstrate an understanding of processes and threads by developing applications using multiple processes and multi-threaded activities in a Linux environment.
3. Demonstrate an understanding of deadlocks and synchronization through the development of application(s) that utilize a variety of mutual exclusion mechanisms.
4. Develop shell scripts and utilities that demonstrate an understanding of memory, file and process management and interaction, including concepts such as virtual memory and disk scheduling.
5. Create a Linux-based application that utilizes inter-process communication mechanisms such as pipes and sockets to communicate information between independently running processes on one or multiple platforms.
6. Demonstrate an understanding of the use and interaction among compilers, macro processors, assemblers, linkers and loaders through their use in creating the applications described in previous outcomes.

Materials

There is no required textbook. I do recommend the following optional texts:


Teaching Philosophy

This course is very hands-on. I expect you to apply material from prior courses as well as learn new skills as appropriate to the assignments. In particular, the C programming language may be new to you.

I will provide traditional lectures via Zoom, but also demonstrations along the way. I will try to have classroom exercises in addition to the recitations. If you miss a class, it is your responsibility to contact other students for notes/announcements you may have missed.

You are expected to spend at least 10 hours per week for this course, in addition to the lectures and recitation. I encourage you to experiment with the subjects that we cover.
Course Technology & Skills

Minimum Technology Requirements
As this course is delivered online, there are certain requirements that you must meet. It is your responsibility to acquire anything missing from the list. Note that my not requiring a textbook means that you may have saved enough money to offset your expenses. The minimum technology requirements for this course are as follows:

- Computer
- Reliable internet access
- Speakers
- Microphone
- GitHub or GitLab account (may be created during class)
- An SSH client for your computer
- Canvas Technical Requirements (https://clear.unt.edu/supported-technologies/canvas/requirements)

Computer Skills & Digital Literacy
You are expected to have met the outcomes listed for all prerequisite courses listed earlier. The following additional skills are needed to succeed in this course.

- Using Canvas
- Using email with attachments
- Using the CSE machines, such as CSE01.
- Basic experience with the Unix operating system (may be acquired in the course).
- Using code repositories such as GitHub or GitLab.

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
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)
**Rules of Engagement**

Rules of engagement refer to the way students are expected to interact with each other and with their instructors. Here are some general guidelines:

- While the freedom to express yourself is a fundamental human right, any communication that utilizes cruel and derogatory language on the basis 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 will not be tolerated.
- Treat your instructor and classmates with respect in any communication online or face-to-face, even when their opinion differs from your own.
- Ask for and use the correct name and pronouns for your instructor and classmates.
- Speak from personal experiences. Use “I” statements to share thoughts and feelings. Try not to speak on behalf of groups or other individual’s experiences.
- Use your critical thinking skills to challenge other people’s ideas, instead of attacking individuals.
- Avoid using all caps while communicating digitally. This may be interpreted as “YELLING!”
- Be cautious when using humor or sarcasm in emails or discussion posts as tone can be difficult to interpret digitally.
- Avoid using “text-talk” unless explicitly permitted by your instructor.
- Proofread and fact-check your sources.
- Keep in mind that online posts can be permanent, so think first before you type.

See these Engagement Guidelines (https://clear.unt.edu/online-communication-tips) for more information.

**Course Requirements**

This is a tentative list of assignments. Percentages may change slightly.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points Possible</th>
<th>Percentage of Final Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Major assignments</td>
<td>100 points each</td>
<td>10% each (20% total)</td>
</tr>
<tr>
<td>6 Minor assignments</td>
<td>100 points each</td>
<td>4% each (24% total)</td>
</tr>
<tr>
<td>2 Midterm Exams</td>
<td>100 points each</td>
<td>12.5% each (25% total)</td>
</tr>
<tr>
<td>10 Recitation Assignments</td>
<td>100 points each</td>
<td>1.6% each (16% total)</td>
</tr>
<tr>
<td>Final Exam</td>
<td>100 points</td>
<td>15%</td>
</tr>
</tbody>
</table>
Grading

I guarantee that these percentages will be the maximum required for a letter grade. I usually lower these as needed to avoid having a large number of students on a grade boundary. Anyone I feel is on a boundary will receive the higher of the two grades.

A = 90% - 100%
B = 80% - 89%
C = 70% - 79%
D = 60% - 69%
F = 0% - 59%

**ABSOLUTELY NO LATE work will be graded**, unless specific arrangements are made with the instructor in advance. All assignments will be turned in by the designated date due. Assignments must be submitted on Canvas unless otherwise indicated. Unsolicited email submissions will not be accepted.

**ALL** requests for extensions on assignments must be made prior to the due date, in person, and must be for a valid “emergency” reason. In extreme circumstances, contact after the due date may be accepted if there is a **COMPELLING** reason (and yes COVID counts).

Course Evaluation

Student Perceptions of Teaching (SPOT) is the student evaluation system for UNT and allows students the ability to confidentially provide constructive feedback to their instructor and department to improve the quality of student experiences in the course. When SPOT becomes available (generally in the last week or so of the course) you will receive an email. I offer a small amount of extra credit if class participation is over 80% of the students.

Course Policies

Attendance Policy

Class attendance is regarded as an obligation as well as a privilege. All students are therefore expected to attend each class meeting. A student who misses class is still responsible to find out what was discussed and to learn the material that was covered and obtain the homework that was assigned on the missed day. The instructor is not responsible for re-teaching material missed by a student who did not attend class. Therefore, each student is accountable for and will be evaluated on all material covered in this course, regardless of attendance.

**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 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](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 Hotline at 844-366-5892 or COVID@unt.edu for guidance on actions to take due to symptoms, pending or positive test results, or potential exposure. While attendance is an important part of succeeding in this class, your own health, and those of others in the community, is more important.

Class Materials for Remote Instruction
Remote instruction may be necessary if community health conditions change or you need to self-isolate or quarantine due to COVID-19. Students will need access to a computer, webcam and microphone to participate in fully remote portions of the class. Information on how to be successful in a remote learning environment can be found at https://online.unt.edu/learn.

Statement on Face Covering
Face coverings are required in all UNT facilities. Students are expected to wear face coverings during this class. If you are unable to wear a face covering due to a disability, please contact the Office of Disability Access to request an accommodation. UNT face covering requirements are subject to change due to community health guidelines. Any changes will be communicated via the instructor.

Class Participation
Webcam use is required, as it helps connect with your classmates and the instructor. You will feel better too in maintaining more social contact. You may use a background image if you wish (please keep it in good taste). There are UNT themed backgrounds available online (https://unt.photoshelter.com/galleries/G00007MyJXNVvL.Q/Zoom-Virtual-Backgrounds).

I may ask individual students to respond to a question, and you are expected to participate in these discussions. Note that ABET explicitly requires students to "Communicate effectively in a variety of professional contexts."

Late Work
As stated earlier ABSOLUTELY NO LATE work will be graded, unless specific arrangements are made with the instructor in advance. All assignments will be turned in by the designated date due. Assignments must be submitted on Canvas unless otherwise indicated. Unsolicited email submissions will not be accepted.

ALL requests for extensions on assignments must be made prior to the due date, in person, and must be for a valid “emergency” reason. In extreme circumstances, contact after the due date may be accepted if there is a COMPELLING reason (and yes COVID counts).

Examination Policy
Examinations are a difficult subject these days. The following policies aim to help navigate this problem.

Examinations are open book, as there is no practical way to proctor remote exams. All students are required to take the examination during the scheduled examination period (held normally during the first hour of a regularly scheduled class meeting, or during the scheduled final examination time). A make-up exam will be given at the discretion of the instructor when a student misses and exam with an excused absence.
Students are required to be on Zoom during the exam period. Announcements will be made periodically towards the end of the examination period to inform you of the time remaining. You are expected to plan your time accordingly. There should be no possibility of a student being caught unaware that the exam time has expired. Being on Zoom also allows announcements that clarify questions.

Examinations will be given using Canvas, which auto-saves your responses a few times each minute. For a brief connection loss, you may reconnect and resume working on your exam. A high-speed, stable, non-shared connection is recommended. For longer connection losses, contact the Student Helpdesk and document the remedy ticket number before contacting the instructor.

After the examination period, there is a separate allocation of time for the scanning and uploading of any written materials in a single PDF document. Students uploading a submission after the specified upload time must provide further information for the reason of their late submission. Failure to provide an acceptable explanation for the late submission of answers will result in a grade of 0 being recorded for the exam.

**Assignment Policy**

Official due dates for each assignment are listed on Canvas. Unless otherwise directed, all assignment submissions must be via Canvas in a single PDF document. **Unsolicited email submissions will not be graded.**

UNT is committed to providing a reliable online course system to all users. However, in the event of any unexpected server outage or any unusual technical difficulty which prevents students from completing a time sensitive assessment activity, the instructor will extend the time windows and provide an appropriate accommodation based on the situation. Students should immediately report any problems to the instructor and contact the UNT Student Help Desk: helpdesk@unt.edu or 940.565.2324 and obtain a ticket number. The instructor and the UNT Student Help Desk will work with the student to resolve any issues at the earliest possible time.

**Instructor Responsibilities and Feedback**

As your instructor, I want you to succeed and graduate. This course covers important material, and UNT and ABET require each of you to demonstrate your competence with it. I try to provide clear instructions on the assignments, but you are encouraged to contact me if you are unsure about any aspect of an assignment. This is a good use of both of our time. I (and the TA’s) will answer questions about assignments, identify additional resources as necessary, provide grading rubrics for possible, as well as review and update course content.

- Grading project deliverables and assignments can be time consuming given the size of the class, but the TA’s and I strive to get grades back within 1-1.5 weeks of submission. Grades and comments/feedback are provided in Canvas.

- Emails to the instructor are answered within 24 hours, often earlier assuming the email is received before 5pm on the day (during the week). The TA will generally answer a student email within 24 hours. When contacting either the instructor or TA’s please include "CSCE 3600" on the subject line. Failing to do this will likely result in your email being buried under a mountain of email I receive each day.
Syllabus Change Policy

The instructor reserves the right to change the course as needed, specifically (though not limited to) the case of topics, due dates, and assignments/assessment items. Any changes are done after careful consideration of the course objectives and student progress.

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. [Insert specific sanction or academic penalty for specific academic integrity violation.]

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. 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.

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 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 or at (940) 565 2759.
Important Notice for F-1 Students taking Distance Education Courses

Federal Regulation

To read detailed Immigration and Customs Enforcement regulations for F-1 students taking online courses, please go to the Electronic Code of Federal Regulations website (http://www.ecfr.gov/). The specific portion concerning distance education courses is located at Title 8 CFR 214.2 Paragraph (f)(6)(i)(G).

The paragraph reads:

(G) For F-1 students enrolled in classes for credit or classroom hours, no more than the equivalent of one class or three credits per session, term, semester, trimester, or quarter may be counted toward the full course of study requirement if the class is taken on-line or through distance education and does not require the student's physical attendance for classes, examination or other purposes integral to completion of the class. An on-line or distance education course is a course that is offered principally through the use of television, audio, or computer transmission including open broadcast, closed circuit, cable, microwave, or satellite, audio conferencing, or computer conferencing. If the F-1 student's course of study is in a language study program, no on-line or distance education classes may be considered to count toward a student's full course of study requirement.

University of North Texas Compliance

To comply with immigration regulations, an F-1 visa holder within the United States may need to engage in an on-campus experiential component for this course. This component (which must be approved in advance by the instructor) can include activities such as taking an on-campus exam, participating in an on-campus lecture or lab activity, or other on-campus experience integral to the completion of this course.

If such an on-campus activity is required, it is the student’s responsibility to do the following:

(1) Submit a written request to the instructor for an on-campus experiential component within one week of the start of the course.

(2) Ensure that the activity on campus takes place and the instructor documents it in writing with a notice sent to the International Student and Scholar Services Office. ISSS has a form available that you may use for this purpose.

Because the decision may have serious immigration consequences, if an F-1 student is unsure about his or her need to participate in an on-campus experiential component for this course, s/he should contact the UNT International Student and Scholar Services Office (telephone 940-565-2195 or email internationaladvising@unt.edu) to get clarification before the one-week deadline.

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.
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)
- 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/)