

GEOG 4230 [undergrad]

Location Intelligence: Business GIS



Spring, 2021 ▪ Monday/Wednesday 12:30 – 1:50 PM ▪ ENV 125

Why Should You Take this Course?

You will benefit from this course because a broad knowledge of many application areas and an ability to use multiple analytical tools gives you a wide range of career opportunities. Business geographers have been providing for the analytical needs of retail business for several decades, but store and market area analytics are not an end point for geographic application.

The emerging term of “location intelligence” recognizes multiple application areas across the for-profit economy, but also beyond. Public sector departments and agencies (like FEMA and TXDOT) and nonprofit organizations (like American Red Cross and American Heart Association) also draw direct benefit from recognizing the power of geographic concepts and analysis. By taking this course, you can add a breadth of understanding and application that increases your career development options.

Instructor: Dr. Murray D. Rice

Office: ENV 310G

E-Mail: rice@unt.edu

Telephone: (940) 597-9307

Regular Class Meetings (Typical Week):

Mon: In Person (ENV 125) / **Wed:** Zoom (Meeting ID: 833 3595 5659)

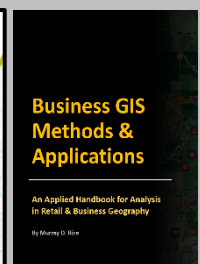
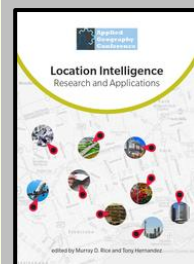
Weekly Office Hours: Wed/Thu, 2:00 – 3:00 pm

via Zoom (Meeting ID: 820 9727 3332)

Online Course Materials: See Course Pages on Canvas

What you'll need for this course:

- The course textbooks (we'll introduce both in class)



- **Weekly ability to access the course website for the resources posted there**
- **Time management skills**
- **A willingness to work and learn**



Class Web Site:

<http://www.murrayrice.com/geog-4230.html>

What Should You be Able to do by the End of this Course?

- Define the fundamental concept of “business geography” as a field that exists to support improved business decision making
- Understand the place of, and need for, the emerging “location intelligence” field as a broadened application area for geography to contribute to business, government, and non-profit operational decision making
- Use to your advantage the fundamental properties and applications of GIS technologies of all types
- Assess the role played by location in a series of discrete application areas, including
 - Services,
 - Marketing,
 - Transportation and Logistics,
 - Real Estate Location Analysis, and
 - Insurance
- Leverage the specific capabilities of
 - Caliper’s **Maptitude** Geographic Information System (GIS) package,
 - The **Alteryx** broad-based and flexible data workflow management environment, and
 - Esri’s **Business Analyst Web** cloud GISto solve real-world problems
- Communicate the basics of the relationship of GIS applications to foundational concepts in urban/economic geography and the powerful field of data science
- Apply good judgment to the selection & design of appropriate maps for specific applications & problem types



How Can You Succeed in this Course?

In addition to the many grade-earning opportunities that await you this semester, your success in this class will be determined by **how well you manage your time** and **how engaged you are with the class** activities.

More specifically:



Show up to class and be on time. If you get to class within 10 minutes of the class start time, you'll avoid being considered late. Even more importantly, you will miss little to none of the great subject matter we're exploring in class that day. I always look forward to seeing you in class! However, if something like a family emergency or a lost dog prevent you from attending, if possible, please send me an email ahead of time so I know not to expect you.



Know the class schedule! Half of the problems people have in classes like this one come from not realizing what's coming up. Please track what's happening in each class and week of classes beforehand. Knowing what is due in class and what is expected that week will help you get the most out of your education investment. One more hint: looking ahead through the entire semester's schedule can help you identify coming weeks that are really heavy. This gives you a chance to get an early start on work for those tough weeks.



Do the weekly reading Each class will typically involve some sort of reading beforehand that will often relate to something we will do in class that day. I will always assume you have done that reading and are ready to use that knowledge in class.



Contact me when problems come up I want to hear from you when you have questions or issues with class. I especially want to talk with you if you feel like you're getting behind and things are falling out of control. You can succeed here! I am here to help.

Overall Grades Summary

20%	Discussion Questions
40%	GIS Lab
30%	Semester Project
10%	Quizzes
100%	Course Total

See the detailed course grade listing on the next page for more information.

Course Guidelines

Detailed Course Grading Listing: It is not essential to pass any particular exam, lab, or project to pass the course, but relative success in each will impact your final grade.

Discussion Questions	Four Sets Submitted (see schedule; 4 x 5%)	20%
GIS Labs:	Five GIS Lab Weeks (best 4 x 10%)	40%
Semester Applied Project:	First Phase: Proposal Storyboard (week 8)	10%
	Second Phase: Final Written Report (week 14)	10%
	Second Phase: Oral Presentation (week 14)	10%
Quizzes	Two during semester	10%
COURSE TOTAL		100%

Accommodation for Students with Disabilities: The University of North Texas 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 you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You 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 Office of Disability Accommodation website at <http://www.unt.edu/oda>. You may also contact them by phone at 940.565.4323.

Course Texts: Two required (and free) textbooks for this course are:

- Murray D. Rice (2021) *Business GIS Methods & Applications: An Applied Handbook for Analysis in Retail & Business Geography*. ISBN: 978-1-64999-936-8 (eBook: free book download, details provided in class).
- Murray D. Rice and Tony Hernandez (2017) *Location Intelligence Research and Applications*. Kent, Ohio: Applied Geography Conference, ISBN: 978-0-991-19751-4 (eBook: free book download, details provided in class).

Other secondary readings are required and listed by week in the schedule portion of this syllabus. Details on access to all readings will be announced in class. An optional textbook that provides supplementary information on some of the course topics is Richard L. Church and Alan T. Murray (2009) *Business Site Selection, Location Analysis, and GIS* (Wiley), ISBN: 978-0-470-19106-4.

Course Philosophy: I am here to organize the course and introduce you to the topics and readings we will examine. I don't have all the answers and I don't pretend to have all the answers, but I will share with you from what I know. I will do my best to make the course interesting, relevant, and challenging.

This being said, it's important to note that you have the most important role in making GEOG 3100 a success for you. You will determine how much you actually get out of this course. Doing the readings outlined, completing and contributing to all group assignments, and coming to class ready to think and participate in the discussions we will have, puts you in the best position to benefit from what this course offers. I encourage you to make full use of the learning opportunities that this class presents.

Duties of the Instructor: In accordance with UNT Policy, state and federal law, your instructor is a mandated reporter and must therefore report to the Title IX or Deputy Title IX Coordinator instances of sexual misconduct (e.g., sexual assault, stalking, dating violence, domestic violence, and sexual harassment) by or against a student enrolled at the university, about which they become aware during this course through first-hand observation, writing, discussion, or personal disclosure. More information can be found at <https://deanofstudents.unt.edu/sexual-misconduct/reporting-sexual-misconduct> including confidential resources available on campus. The University of North Texas is committed to maintaining work and educational environments free from sexual misconduct and retaliation. The University will not tolerate conduct that is inconsistent with this commitment at any of its locations, programs or other activities. If students, faculty, or staff would like assistance or have questions, they can email TitleIX@unt.edu or visit the Dean of Students website at deanofstudents.unt.edu.

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

- Treat your instructor and classmates with respect in email or any other communication.
- Always use your professors' proper title: Dr. or Prof., or if in doubt use Mr. or Ms.
- Unless specifically invited, don't refer to your instructor by first name.
- Use clear and concise language.
- Remember that all college level communication should have correct spelling and grammar (this includes discussion boards).
- Avoid slang terms such as "wassup?" and texting abbreviations such as "u" instead of "you."
- Use standard fonts such as Arial, Calibri or Times New Roman and use a size 10 or 12 point font
- Avoid using the caps lock feature AS IT CAN BE INTERPRETTED AS YELLING.
- Limit and possibly avoid the use of emoticons like :) or .
- Be cautious when using humor or sarcasm as tone is sometimes lost in an email or discussion post and your message might be taken seriously or sound offensive.
- Be careful with personal information (both yours and other's).
- Do not send confidential information via e-mail

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

Courtesy: You can expect to be treated with respect as a student in this course. I promise to do my best to make sure this happens for everyone in the class. I expect the same in return from you, for both me and the other students around you. A few specific ways you can extend courtesy to everyone else in the class include the following.

- Please arrive before the class begins. If you are unavoidably detained and are late, please disturb the other students as little as possible when you take your seat.
- Please avoid talking or engaging in other behavior that disturbs people sitting around you.
- If you cannot stay awake, please stay home and sleep.
- Please do not come to class to work on your homework for another course.
- Please do not come to class to read books, magazines, or anything else I did not ask you to read in class.
- Please do not come to class to write e-mail or play games on your computer or other mobile device.
- I allow computer use during class time if you use your computer to take notes. Please do not use your computer for any of the activities prohibited above.
- Please leave during class only if it is necessary (i.e. a restroom break).
- Please turn off your cell phone before class begins.

Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and will not be tolerated in any instructional forum at UNT.

Quiz and Lab Due Dates: Quiz and lab due exam dates are set in advance for everyone's good, will not be changed except for emergencies. It is your responsibility to plan outside activities so they will not conflict with class dates. If you have a true emergency on an exam day, please contact me as soon as possible following the exam to explain the circumstances and make alternative exam arrangements.

Late Policy: Anything handed in late* will be subject to a single, flat 10% penalty. Late work will not be accepted for credit after graded work has been returned to the class. Graded work is usually returned to the class a maximum of one week after the due date. I will grant exceptions to the above late policy if you can provide documentation substantiating a valid emergency.

Attendance: I will take attendance to conform to UNT health-related policies. However, attendance will not be a factor in determining your course grade. Despite attendance not counting in a grade sense, I want to see you in class and ask that you make regular class attendance a priority. It is to your academic advantage for you to participate in all class either live or via class recordings.

Extra Credit: The Department of Geography does not allow extra credit assignments (work not specified on a course syllabus).

Academic Dishonesty: Academic dishonesty in this course will be penalized according to University of North Texas rules and regulations, ranging from a mark of 0 on a test or assignment, a grade of “F” in the class, to possible suspension or expulsion from the university, depending on the precise nature and circumstances of the dishonesty. Learning what is dishonest and how to stay away from such conduct is good preparation for a successful career.

To help you avoid academically dishonest behavior, the Center for Student Rights and Responsibilities at the University of North Texas has developed a definition of academic dishonesty and a set of strategies to protect yourself from being accused of academically dishonest behavior.

The following is a summary of definitions and strategies from CSRR:

Forms of Academic Dishonesty

- **Cheating:** intentionally using or attempting to use unauthorized materials, information, or study aids in any academic exercise. The term academic exercise includes all forms of work submitted for credit or hours.
- **Plagiarism:** the deliberate adoption or reproduction of ideas, words or statements of another person as one’s own without acknowledgement.
- **Fabrication:** intentional and unauthorized falsification or invention of any information or citation in an academic exercise.
- **Facilitating academic dishonesty:** intentionally or knowingly helping or attempting to help another to violate a provision of the institutional code of academic integrity.

Proactive Strategies to Protect Yourself from Charges of Academic Dishonesty:

1. Prepare thoroughly for examinations and assignments.
2. Take the initiative to prevent other students from copying your exam or assignments, e.g., shield your answer sheet during examinations, do not lend assignments to be turned in to other students.
3. Check your faculty member’s course syllabus for a section dealing with academic dishonesty for that course. There may be special requirements. If you cannot find a written section in the syllabus, ask the faculty member what his/her expectations are.
4. Consult the Code of Student Conduct for a detailed definition of academic dishonesty.
5. Do not look in the direction of other students’ papers during examinations.
6. Utilize a recognized handbook for instruction on citing source materials in papers.
7. Consult with individual faculty or academic departments when in doubt.
8. Utilize the services of the University Writing Center, located in room 105 of the Auditorium Building, for assistance in preparing papers.
9. Discourage dishonesty among other students.
10. Refuse to assist students who cheat.

Please see the closing pages of this syllabus for a collection of UNT Policies that are directly relevant to you and your wellbeing as a student at UNT.

Pandemic-Related Guidance

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>) 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 webcam and microphone to participate in fully remote portions of the class. Additional required classroom materials for remote learning include: a high-speed internet connection and ability to run Zoom software. Information on how to be successful in a remote learning environment can be found at <https://online.unt.edu/learn>.

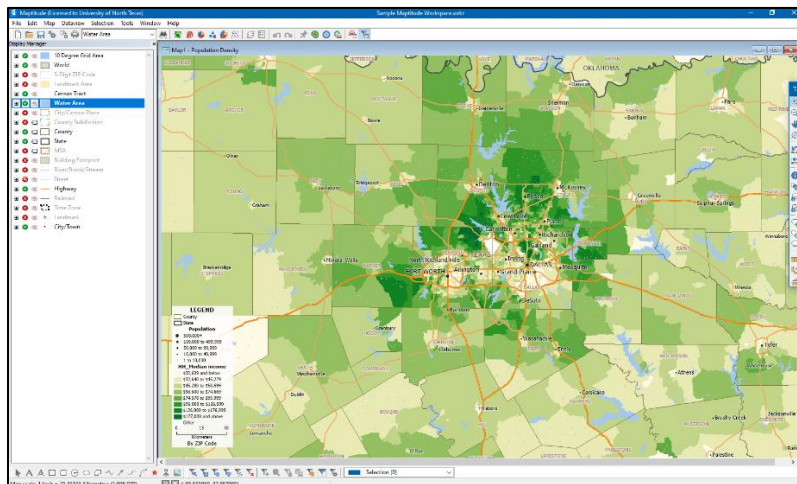
Statement on Face Covering: Face coverings are required in all UNT facilities. Students are expected to wear face coverings during this class. If you are unable to wear a face covering due to a disability, please contact the Office of Disability Access to request an accommodation. UNT face covering requirements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

Overview of Graded Tasks

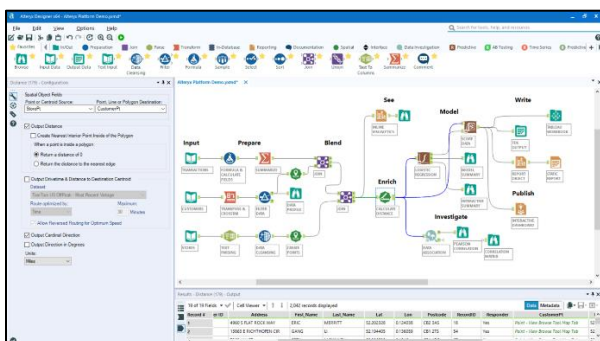
1. Discussion Questions: In weeks 2-12 of the course, you will have a set of discussion questions (“DQs”) for you to consider and answer most weeks. I will provide a discussion place for you to provide your feedback and interact with the other students on the week’s question(s) in Canvas. Your DQ grade will be based in part on your original answer and part on your engagement with your classmates. In-class discussion each week will be based in part on discussion questions. It is a good idea for you invest substantial time in considering, answering, and responding to other’s answers to the discussion questions for that week.

2. GIS Labs: Throughout the course we will be covering material that is highly applied in nature. To give you some up-front practical experience in actually implementing some of the concepts and methods discussed in class, our class discussion times will be mixed in with GIS lab sessions. The lab portion of the course will give you practical GIS analytical experience with Caliper’s **Maptitude** GIS, Esri’s **Business Analyst Web App**, and the **Alteryx** data workflow engine.

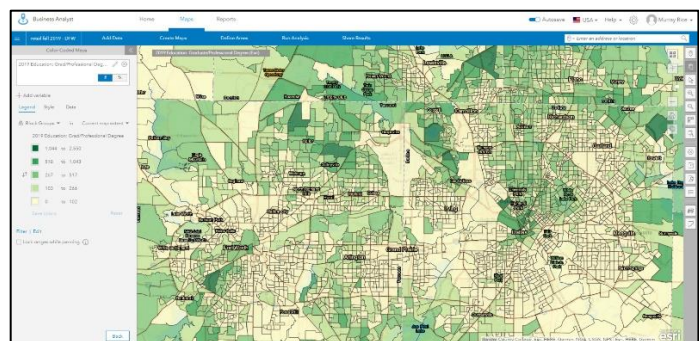
Lab work weeks: weeks 3, 6, 8, 10, and 11 (lab write-ups due the week following the lab)



Caliper's Mapitude GIS



Alteryx Data Workflow Engine



Business Analyst Web App

3. Quizzes: There are two quizzes held during the semester that focus on comprehension of basic facts discussed during our class times. Each quiz has a mix of multiple-choice and matching questions. Quizzes will be held in weeks 5 and 13 of the course.

4. Semester Applied Project: The class will be asked to form groups of 2-3 students to complete a project consisting of a *proposal storyboard*, a *final report*, and an *oral presentation* on an applied, location intelligence problem (more on each of these elements in class). To succeed, you will need to think of this as not just another “term project”, but as a report that you are producing for an actual business client – because that is exactly what you will be doing. The project problem is an actual issue that a real business is encountering, and you get to help them solve it. Everything you write and present should indicate that you have put your best effort forward.

Your project will focus on an applied case study problem involving business geography analysis and assessment. Please consider the following points as you plan your project.

The term project for this class is a complete geographic analysis and assessment for a real-world business that will be introduced during the first week of classes this semester. Industry contacts will meet with the class early in the semester and periodically thereafter to help to introduce the case study, define the project parameters, and provide general insight into the project problem and situation.

The focus of the case study will be a specific business that is a client in need of geographic analysis and advice to guide their future plans. You will be filling the role of a location intelligence analyst in completing your project work. This project will give you an excellent introduction to the connection between geography and real-world business problems through this project. Because you are working with an actual business, you will have an abundance of real-world information about the business that you will need to consider in combination with the concepts and methods we are learning in this class.

The project includes a proposal storyboard, final report, and final presentation.

1. The *first phase proposal storyboard* focuses on an initial environmental scan of the project problem, concentrating on formulation of a plan to complete the project work.
2. The *second phase final report* will focus on crafting understandable research findings and actionable recommendations for the project client.
3. The *second phase oral presentation* will provide a high level overview of your findings and recommendations and provide an opportunity for discussion of your report.

To succeed in this project, you will need to think carefully about the role you are playing in this case study, the case study business itself, its locations and its markets. A few questions to consider: What are the business and your industry contacts trying to accomplish – and following from that, what are you really trying to accomplish in your analysis? Where is the case study business currently located? What geographic factors contribute to success for this business? Who are its customers? Where are they located? Who are the business’ key competitors? Where are they located? How is this competitive situation changing over time?

Last thought: the focus of your report should be on geography and the analytical considerations the case study business needs to make related to locations and markets.

It is important that you begin planning and working on your project immediately: you will find you need the entire semester to complete the project.

Components of the Semester Applied Project

1. First Phase Proposal Storyboard (due on the Wednesday of week 8): a concise, focused outline of your plans for completing the project. Key elements here include:

- Definition of the **project focus** in your own words, including a concise statement of the specific problem(s) to be solved and who the problem is to be solved for (the client).
- Specification of **the overall plan** you propose to follow to solve the project problem.
- This plan needs to include:
 - Discussion of the **GIS methods** that form the core of your analytical approach to the project problem
 - Listing of the **data sources** and any other resources you have identified that you will need in completing the project analysis.

• **Note:** this proposal storyboard should not include any analytical results. Your entire work here should focus on creating a plan for you to carry out for the two elements below.

2. Second Phase Final Project Presentation (to occur in week 14): an oral presentation to the class of your completed project findings and analysis. Key elements here include evaluation in two dimensions:

- **Specific Presentation Content:** research problem to be solved, significance of the problem, research findings, linkage of findings to client needs, clear connection to the business GIS focus of the course, and actionable recommendations.
- **Overall Presentation Quality:** organization, speaking style, Powerpoint/visuals usage, and ability to hold interest and engage audience.

3. Second Phase Final Project Report (due on the Monday of week 14): a written report that provides detail on your completed project findings and analysis. Key elements here also include evaluation in two dimensions:

- **Specific Report Content:** introduction, research question statement, discussion of analytical choices made, explanation of research findings, linkage of findings to client needs, and conclusion that provides overall evaluation and summary of the research completed.
- **Overall Report Quality:** source citations, writing, graphics, and quality of organization of the report as a whole.

**Semester Project Sponsor
for Spring 2021**



Who is your professor?

■ Dr. Murray Rice

- Professor, UNT Geography and the Environment
- Bachelor of Science in Engineering Physics
- MA and PhD, Urban/Economic Geography
- Before coming to UNT: 10 years of consulting practice with Altavision Geographics, a geographic analysis consulting firm
- Following that consulting decade, I am now in my 16th year of teaching at UNT

■ I grew up in Ottawa, Canada's capital city

■ So yes, I am a proud Canadian



■ I also spent part of my growing-up years in the beautiful city of Boston



■ Other miscellaneous facts...

- I am a Christian, and always up for a good conversation about all matters related to faith and belief
- I have traveled to three continents so far (North America, Europe, and Asia)
- I am a fan of the Ottawa Senators (NHL), Saskatchewan Roughriders (CFL), Boston Red Sox (MLB), and Seattle Seahawks (NFL)

Four Ground Rules

- 1. Do your work
- 2. Come to learn
- 3. Participate
- 4. Consider others

Come Prepared

Right Attitude

Be Engaged

The "Golden Rule"

My goal here is to serve your needs well.

"I did not come to be served, but to serve"

**No matter why you are here,
what your major is, or anything else
about who you are, welcome.**

I am glad you are in this class.





What are we doing in this course?

Here is our schedule of topics and learning activities for the semester. Please note that all weeks where something important is happening or due (a GIS Lab, a Discussion Question set, or a project report or presentation) is highlighted in a visible way.



Readings: the readings for each week come from the required Rice and Hernandez (2017) textbook, plus more readings accessible through the course website (details on access to these readings will be provided the first day of class). Readings from the optional Church and Murray (2009) textbook are identified by *[text that is italicized and delimited by square brackets]*.

- Also, please note that through the semester I will work to schedule guest speakers from our semester project partners at KFC, and our local business geography practitioner community. Most of these talks are not represented in the schedule here, but I will update you during the semester as I make these arrangements. I anticipate you will find these external contacts to be a valuable part of your course experience.

PART 1 – INTRODUCTION: GEOGRAPHY AND BUSINESS DECISION-MAKING

DQ WEEK 1

Week 1 (Jan 11, 13)

Location Intelligence Motivation & Fundamentals



Location Intelligence: Motivation and Fundamentals

Rice and Hernandez (2017) Chapter 1 “Location Intelligence as an Evolving Field”; *[Church and Murray (2009) Chapter 1 “Introduction”]*; See all resources in the materials section of this week’s Canvas module

- Introduction to course goals and context for location intelligence expertise in society
- Meaning of the “location intelligence” and “business geography” terms
- Discussion of GIS applications in a business context

PART 2 – CONCEPTUAL FOUNDATIONS OF BUSINESS GEOGRAPHIC ANALYSIS

DQ WEEK 2

Week 2 (Jan 20)



One class this week due to MLK Day (Jan 18)



Foundations: Urban/Economic Geography

Rice and Hernandez (2017) Chapter 5 “Public Sector”; Rodrigue, Comtois, and Slack (2006) Chapter 3 “Economic and Spatial Structure of Transport Systems” and Chapter 7 “Urban Transportation”; See all resources in the materials section of this week’s Canvas module

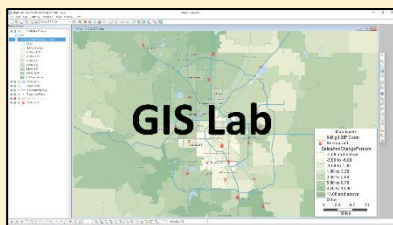
Week 2 Discussion Question Set Due This Week (Wednesday)*

- Overview of selected foundational concepts in economic geography that support business geography practice
- Discussion of key urban concepts and how geographers conceptualize the city

* See the “Discussion Questions” summary document (downloadable from the introductory module on Canvas) for a complete listing of discussion questions for each week of the course.

GIS LAB #1 WORK: URBAN/ECON. ANALYSIS

Week 3 (Jan 25, 27)



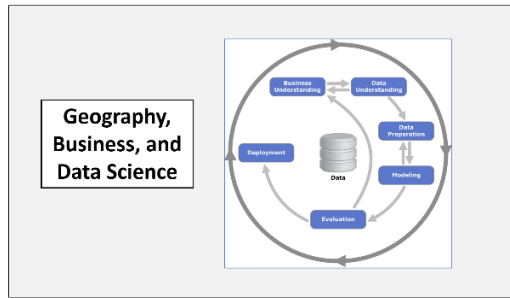
GIS Lab 1: GIS & Urban/Economic Analysis

Reading: Caliper (2019) *Maptitude Brochure*; See all resources in the materials section of this week’s Canvas module

- *Hands-on Lab (Wednesday)*: restaurant performance assessment and analysis in Denver, Colorado
- *Software Focus*: Caliper Maptitude
 - *Specific Skills*: Market Area Definition and Buffer Analysis

DQ WEEK 4

Week 4 (Feb 1, 3)



**GIS LAB
#1 DUE**

Foundations: Geography, Business, and Data Science

Longley et al. (2005) Chapter 12 “Data Quality”; [Church and Murray (2009) Chapter 2 “GIS”]; See all resources in the materials section of this week’s Canvas module

Week 4 Discussion Question Set Due This Week (Monday)

GIS Lab 1 (GIS and Urban/Economic Analysis) Due This Week (Wednesday)

- Business applications for data analysis
- Geography, business, and the contributions and meaning of data science
- Understanding and properly navigating through data quality and data acquisition issues

PART 3 – APPLICATION DOMAINS FOR GIS AND GEOANALYTICS



Week 5 (Feb 8, 10)



The Marketing Domain: Customer Analysis

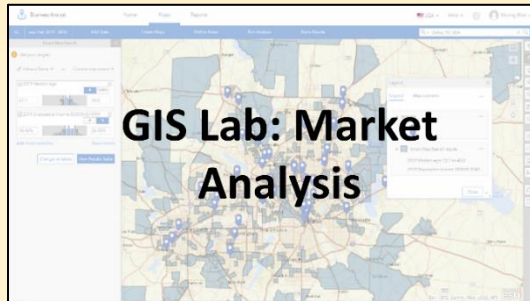
Esri (2011) *Tapestry Segmentation Reference* (1-12)*; See all resources in the materials section of this week’s Canvas module

Quiz #1 This Week (Wednesday)

- General context for marketing application: management of uncertainty
- Market analysis application: The Huff Model
- Market analysis application: Geodemographic Segmentation

GIS LAB #2 WORK: MARKETING

Week 6 (Feb 15, 17)



GIS Lab 2: Marketing and Geodemographic Analytics

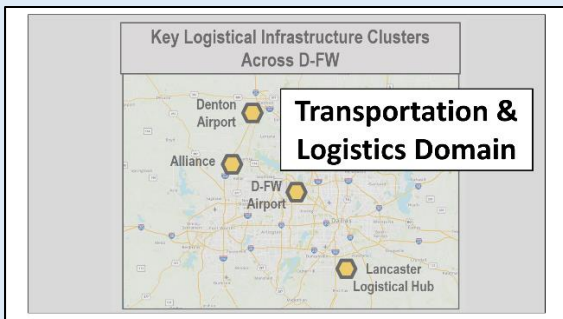
Rice (2021) Introduction (pages 5, 6) and Appendix A (pages 156-158); See all resources in the materials section of this week's Canvas module

Applied Project First Phase Proposal Storyboard Due This Week (Wednesday)

- On Wednesday this week, please submit:
 - A paper version and an electronic version of your proposal storyboard (please send the electronic version to rice@unt.edu)
- We will take class time on Wednesday to give each project team five minutes to explain their storyboard
- *Hands-on Lab*: geodemographic targeting analysis in Portland, Oregon
- *Software Focus*: Esri Business Analyst Web App
 - *Specific Skills*: Market Assessment and Targeting Functions

DQ WEEK 7

Week 7 (Feb 22, 24)



**GIS LAB
#2 DUE**

The Transportation and Logistics Domain: Supply Chain and Spatial Analytics

Rice and Hernandez (2017) Section 2.3 "Transportation"; Rodrigue, Comtois, and Slack (2006) Chapter 2 "Transportation Systems and Networks"; Longley et al. (2005) Chapter 59 "Transportation GIS: GIS-T"; [Church and Murray (2009) Chapter 9 "Coverage"]; See all resources in the materials section of this week's Canvas module

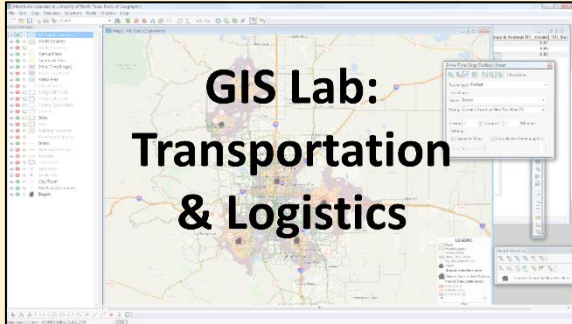
Week 5 Discussion Question Set Due This Week (Monday)

- The bases of spatial interaction
- JCPenney: A case study of the role of transportation and logistics in the modern corporation
- Modeling and analyzing transportation networks
- Further exploration of location-allocation methodological options
- GIS and transport routing

GIS LAB #3 WORK: TRANSPORTATION

PROJECT: 1st Phase
Proposal

Week 8 (Mar 1, 3)



GIS Lab 3: Transportation Analysis

No reading for this week.

- *Hands-on Lab*: distribution center network location analysis for a non-store retailer in Denver, Colorado
- *Software Focus*: Caliper Maptitude
 - *Specific Skills*: Site Location and Logistical Analysis Functions

Week 9 (Mar 8, 10)



GIS LAB
#3 DUE

The Real Estate Domain: Location and the Identification of Business Opportunity

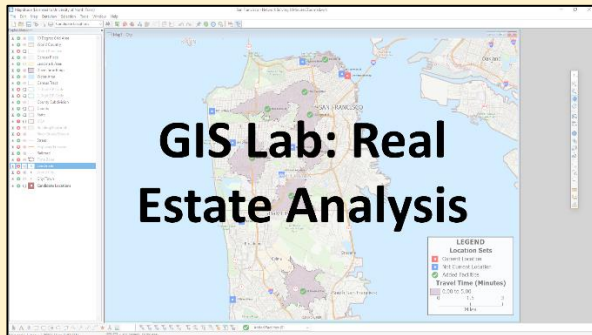
Rice and Hernandez (2017) Chapter 2 "Services"; Esri (2012) *Improving Retail Performance with Location Analytics*.^{*} [Church and Murray (2009) Chapter 4 "Trade and Service Areas"]; See all resources in the materials section of this week's Canvas module

Week 9 Discussion Question Set Due This Week (Monday)

- Why real estate market analysis? What is real estate market analysis?
- Risk and real estate decisions: the "big five" components of real estate

GIS LAB #4 WORK: LOCATION ANALYSIS

Week 10 (Mar 15, 17)



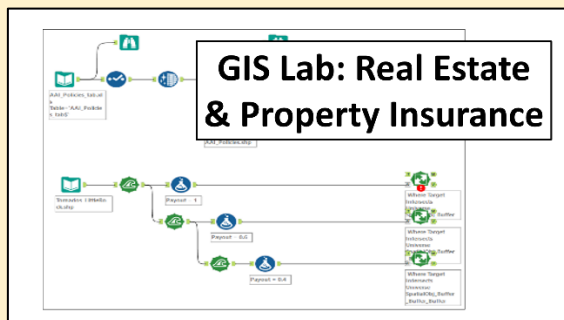
GIS Lab 4: Real Estate Location Analysis

No reading for this week.

- *Hands-on Lab:* pharmacy network real estate analysis in San Francisco, California
- *Software Focus:* Caliper Maptitude
 - *Specific Skills:* Facility Location Functions in a Real Estate Context

GIS LAB #5 WORK: REAL ESTATE/INSURANCE

Week 11 (Mar 22, 24)



GIS Lab 5: Real Estate and Insurance

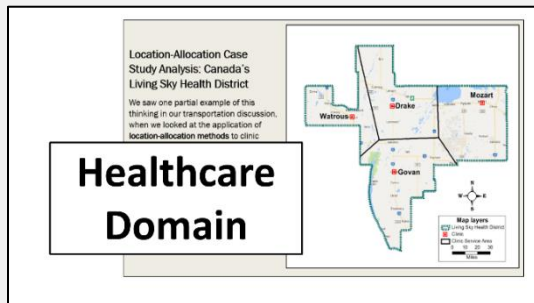
No reading for this week.

GIS Lab 4 (Real Estate Location Analysis) Due This Week (Wednesday)

- *Hands-on Lab:* property insurance risk assessment in Little Rock, Arkansas
- *Software Focus:* Alteryx
 - *Specific Skills:* Data Mapping and Workflow Functions Applied to an Insurance Case Study

**GIS LAB
#4 DUE**

Week 12 (Mar 29, 31)



The Healthcare Domain: Spatial Analysis of Health Needs and Medical Services

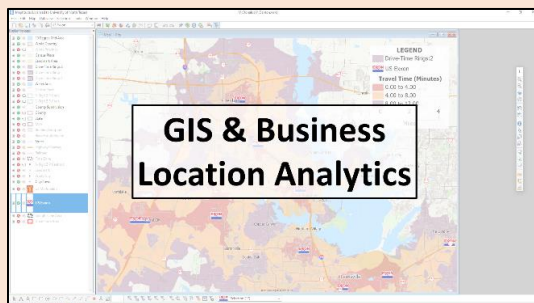
Rice and Hernandez (2017) Chapter 5 “Public Sector”; Longley et al. (2005) Chapter 66 “Health and Health Care Applications”; See all resources in the materials section of this week’s Canvas module

GIS Lab 5 (Real Estate and Insurance) Due This Week (Wednesday)

- Spatial epidemiology and the incidence of disease
- Health care system planning in a spatial context
- Note: some flexible in-class project work time will be provided this week; details to be provided in class in March

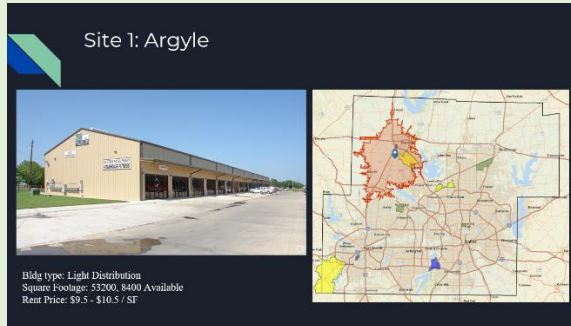
PART 4 – COURSE WRAP-UP: FINAL CONCEPTS AND PROJECT PRESENTATIONS

Week 13 (Apr 5, 7)



PROJECT: 2nd Phase Deliverables

Week 14 (Apr 12, 14)



Project Presentations

No reading this week

Written Report (Final) and Oral Presentations Due This Week

- Project presentations this week (no other activities planned)
- On Monday this week, please provide to me:
 - A paper version and an electronic version of your final report (send electronic version to rice@unt.edu)
 - An electronic version of your presentation file (rice@unt.edu)
- On the day you present (Monday or Wednesday), please hand in to me at the beginning of class:
 - A paper version of your presentation

PART 5 – COURSE SUMMARY

Week 15 (Apr 19, 21)

Location Intelligence: Business GIS

A LOOK BACK AT THE SEMESTER



Summary and Synthesis

No reading this week

- Summary and review of key course concepts and applications
- Return of graded projects and presentation of best project awards

Sources Referenced in the Course Reading List

Each of the following books and other publications provide excellent background reading for this course. We will examine selected chapters from these excellent reference materials. Some marked readings are available through links on the course website. Aside from the Church and Murray course textbook, none of the books listed below are available in the UNT bookstore, but copies of most are available through online retailers such as Amazon. The Rice and Hernandez course textbook is available through the Applied Geography Conference website (link provided on course website).

Caliper (2019) *Maptitude Brochure*. Caliper: Newton, MA.

Church, Richard, and Alan Murray (2009) *Business Site Selection, Location Analysis, and GIS*. Wiley: New York.

Jones, Ken, and Jim Simmons (1990) *The Retail Environment*, Routledge: London. ISBN: 0-415-04985-7

Jones, Ken, and Jim Simmons (1993) *Location, Location, Location: Analyzing the Retail Environment*, 2nd Edition, Nelson Canada: Scarborough. ISBN: 0-17-604140-0

Longley, P.A., M.F. Goodchild, D.J. Maguire, and D.W. Rhind, editors (2005) *New Developments in Geographical Information Systems: Principles, Techniques, Management and Applications*, 2nd Edition. Wiley: Hoboken, NJ.

Murray D. Rice (2021) *Business GIS Methods & Applications: An Applied Handbook for Analysis in Retail & Business Geography*. Book Manuscript in Review and Revision.

Rice, Murray D. and Tony Hernandez, editors. (2017) *Location Intelligence Research and Applications*. Kent, Ohio: Applied Geography Conference. ISBN: 978-0-99119-751-4.

Rodrigue, Jean-Paul, Claude Comtois, and Brian Slack (2006) *The Geography of Transport Systems*, 1st Edition. Routledge: London.

My goal in this course is for your time here to be of great value to you. This course provides concepts and skills you will find a helpful starting-point for a career in location intelligence and business geography. However, even if you follow a career path outside of business geography, my hope is that this course will provide you with insights into cities and the economy that can help you in many ways.

Please do not hesitate to let me know if there is anything else we can do, beyond what you see in this course package, that could be useful in preparing you for your future.

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. 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-I Students taking Distance Education Courses

Federal Regulation: To read detailed Immigration and Customs Enforcement regulations for F-I 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-I 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-I 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-I 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-I 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.

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 eulDs 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:

- o What are pronouns and why are they important?
- o How do I use pronouns?
- o How do I share my pronouns?
- o How do I ask for another person's pronouns?
- o 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/>)

