



University of North Texas  
Toulouse Graduate School  
Advanced Data Analytics  
ADTA5240/IPAC 4240  
Spring 2022

## Course Syllabus

### COURSE INFORMATION

*Welcome to ADTA 5240/IPAC 4240. I am so excited to have you in class this semester and I look forward to working with all of you throughout the course.*

**ADTA 5240/IPAC 4240:** Harvesting, Storing, and Retrieving Data

**Credit Hours:** 3

**Class Time:** Tuesday and Thursday 6pm

**Class Location:** Zoom (online)

### Instructor Contact Information

Professor Allyn Moeller

**Office Hours:** Available upon request via Zoom. Email for availability.

**Email:** [allyn.moeller@unt.edu](mailto:allyn.moeller@unt.edu)

### Teaching Philosophy

I believe students must be given clear direction in order for them to succeed. It is important that they understand the course learning objectives as documented in the syllabus, and the deadlines for submission of all course work as documented on the course calendar. I have found that if a student understands the learning objectives and the contribution to their professional development of each assignment, their quality of their work improves. I also believe that students need to be given timely feedback so that they know how to improve and to respond to communications from students in a timely manner. Timely feedback help students gain self-confidence and inspire them to fully engage in the course material and to believe that they can do well. It is important for students to know that as a professor, I understand that “life happens” and that I will be flexible when a legitimate problem arises. I also think that it is important to establish performance guidelines in the syllabus, and to establish a safe and welcoming learning community in each course. It is my responsibility as a teacher to get my students ready for the workforce and to ensure that they are prepared to meet the professional challenges ahead.

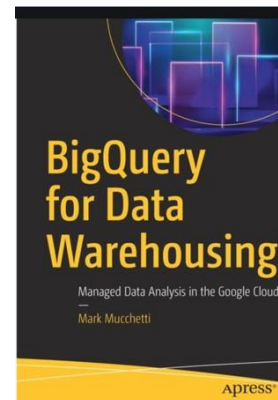
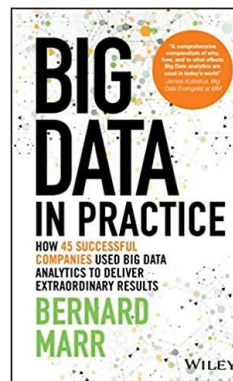
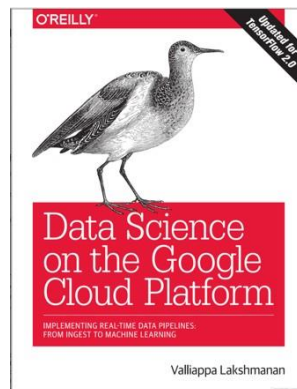
### Course Pre-requisites, Co-requisites, and/or Other Restrictions

Required prerequisite courses: NONE

### Materials – Text, Readings, Supplementary Readings

No textbook is required for this course but we will have articles to read throughout the semester (these are listed in the weekly modules under content).

These books are NOT required but you might find them beneficial for extra reinforcement of the material.



- Lakshmann, V. (2018) Data Science on the Google Cloud Platform. O'Reilly. ISBN:9781491974537, 1491974532
- Marr, B. (2016). Big Data in Practice: How 45 Successful Companies Used Big Data Analytics to Deliver Extraordinary Results. Wiley. ISBN: 978-1119231387
- Mucchetti, M. (2020) . BigQuery for Data Warehousing. Apress. ISBN-13 : 978-1484261859

### Course Description

This course introduces the fundamentals of data engineering, including harvesting (and processing), storing, retrieving, exploring, and visualizing data. The goal of this course is to provide students with both theoretical knowledge and practical experience leading to mastery of the fundamentals of data engineering, using both small and large datasets. As these fundamentals are introduced, exemplary technologies will be employed to illustrate how storage and processing architectures can be constructed. The problems are being considered in the context of big data analytics. Exercises and examples will consider both simple and complex data structures, as well as data ranges from clean and structured to dirty and unstructured.

The undergraduate class IPAC4240, will follow along this same syllabus but assignments and exams may be modified.

### Course Objectives

<b>Outcome 1</b>	Develop an understanding of the fundamental concepts of the modern data management, including data science life cycle, data scaling, structuring data, and data lakes.
<b>Outcome 2</b>	Develop knowledge and skills in harvesting, storing, retrieving, and processing data using the cloud technology
<b>Outcome 3</b>	Develop knowledge and skills in working with the Apache Hadoop framework including Hadoop Distributed File System (HDFS), MapReduce, and Hive, as well as Colossus.
<b>Outcome 4</b>	Develop knowledge and skills in working with HDFS, Spark, Linux, SQL, BigQuery
<b>Outcome 5</b>	Develop knowledge and skills in cleansing/wrangling data with Google/Open Refine
<b>Outcome 7</b>	Introduce students to querying data in BigQuery, Hive, Spark.

## COURSE REQUIREMENTS

1. The student will be responsible for checking the announcements in the UNT email and other types of class communication daily.
2. The student will access and follow all course instructions found in the syllabus, announcements, assignments, and all other class-related documents.
3. The student will complete all the class assignments in the time frame specified in the class documents, including the course calendar to participate effectively in-class activities. Please note: Only 1 extension will be granted without penalty so be sure to only use the one extension when truly needed. After one extension (not the entire module), there will be a 10% deduction for each day the work is submitted late.
4. The student will complete all the projects, assessment tests and exams in the time frame specified in the class documents, including the course calendar.

## COMMUNICATIONS

**Interaction with Instructor:** I look forward to getting to know all of you and working with you. Contact me anytime using my UNT email ([alyn.moeller@unt.edu](mailto:alyn.moeller@unt.edu)). I will check the email daily and will make every effort to respond as quickly as possible. If you have not heard back from me in 24 hours, please feel free to send another email.

## Assignments, Assessments, and Discussions

There will be **ten GCP centered exercises** throughout the course.

There will be **one discussion**.

There will be **one midterm take-home exam**.

There will be **a group project for the final**.

## Make-Up Policy

No make-up assignment or exams will be offered except for being approved in advance. Students will be required to provide necessary documentation.

### Late-work Policy

All assignments are to be submitted by the due date and time.

The deadline for submitting an assignment is 11:59 PM on the due date.

Late submissions can still be submitted up to 24 hours after the deadline and will be subject to a 10% penalty after the first and only extension. No submissions will be accepted later than 3 days after the deadline and NO late submission of the midterm or final.

**NOTES: Late work is subject to the penalty described above unless previously approved by the instructor.**

### Class Schedule

The following is a tentative schedule. Should any change become necessary, it will be announced via the UNT email. It is the student's responsibility to check for changes in the schedule.

Module	Date: <b>Due at 11:59 pm (Central Time) on the last day of the module.</b>	Topics
1	Jan 17-23	<b>Lecture 1:</b>  Welcome and Class Overview Download Welcome and Class Overview  Introduction to Big Data Download Introduction to Big Data  Introduction to Google Cloud Platform (GCP) Download Introduction to Google Cloud Platform (GCP)  <b>Readings:</b>  Cappa, F., Oriani, R., Peruffo, E., & McCarthy, I. (2021). Big Data for Creating and Capturing Value in the Digitalized Environment: Unpacking the Effects of Volume, Variety, and Veracity on Firm Performance. The Journal of Product Innovation Management, 38(1), 49-67.

		<p>10.1111/jpim.12545 pdf Download pdf.</p> <p>Great (Links to an external site.)Additional Resources:</p> <p>UNT Library Guide: (Links to an external site.) Retrieved from: <a href="https://guides.library.unt.edu/plagiarism">https://guides.library.unt.edu/plagiarism</a></p> <p><b>Homework:</b></p> <p>Personal Introduction Creating Projects in GCP How to Setup a GCP Account with Free Credit</p>
2	Jan 24-30	<p><b>Lecture:</b></p> <p>Introduction to Cloud Storage Download Introduction to Cloud Storage Introduction to Linux Download Introduction to Linux</p> <p><b>Readings:</b></p> <p>Carey, S. (2021). Google Cloud named best performing cloud for 2021 (Links to an external site.). InfoWorld. Retrieved from: <a href="https://www.infoworld.com/article/3603501/google-cloud-named-best-performing-cloud-for-2021.html">https://www.infoworld.com/article/3603501/google-cloud-named-best-performing-cloud-for-2021.html</a></p> <p>Costello, K., Rimol, M. (2021). Gartner forecasts worldwide public cloud end-user spending to grow 23% in 2021 (Links to an external site.). Retrieved from: <a href="https://www.gartner.com/en/newsroom/press-releases/2021-04-21-gartner-forecasts-worldwide-public-cloud-end-user-spending-to-grow-23-percent-in-2021">https://www.gartner.com/en/newsroom/press-releases/2021-04-21-gartner-forecasts-worldwide-public-cloud-end-user-spending-to-grow-23-percent-in-2021</a> (Links to an external site.)</p> <p>Scollurio. (2021). How and why to switch to Linux for good in 2021 (Links to an external site.). Medium. Retrieved from: <a href="https://scollurio.medium.com/how-and-why-to-switch-to-linux-for-good-in-2021-469f9782176c#:~:text=It%20can%20run%20great%20on,both%20sniffing%20out%20your%20activities.">https://scollurio.medium.com/how-and-why-to-switch-to-linux-for-good-in-2021-469f9782176c#:~:text=It%20can%20run%20great%20on,both%20sniffing%20out%20your%20activities.</a></p> <p><b>Additional Resources:</b></p> <p>Google Cloud Storage (Links to an external site.): Retrieved from: <a href="https://cloud.google.com/storage">https://cloud.google.com/storage</a></p> <p>Creating Storage Buckets: (Links to an external site.) Retrieved from:</p>

		<p><a href="https://cloud.google.com/storage/docs/creating-buckets">https://cloud.google.com/storage/docs/creating-buckets</a> (Links to an external site.)</p> <p>LinuxTrainingAcademy.com. Linux Command Line Cheat Sheet</p> <p><b>Homework:</b> How to Create a New Storage Bucket, 3 Folders, and Load Data into a Folder in GCP How to Create a New Storage Bucket, 3 Folders, and Load Data into a Folder in GCP and Create a Cluster in GCP Setting up a Virtual Machine with Linux as the OS</p>
3	Jan 31 – Feb 6	<p><b>Lecture:</b></p> <p>Introduction to Distributed File Systems Download Introduction to Distributed File Systems</p> <p>Google Cloud Platform Storage: Structured OLTP, Cloud SQL, &amp; Cloud Spanner</p> <p>Google Cloud Platform Storage: Structured Data: OLAP: BigQuery Download Google Cloud Platform Storage: Structured Data: OLAP: BigQuery</p> <p>Discuss Midterm – Big Data and Storage</p> <p><b>Readings:</b></p> <p>Pattinson, T. (2020). Relational vs. non-relational databases. (Links to an external site.) Retrieved from: <a href="https://www.pluralsight.com/blog/software-development/relational-vs-non-relational-databases">https://www.pluralsight.com/blog/software-development/relational-vs-non-relational-databases</a> (Links to an external site.)</p> <p>Hildebrand, D. &amp; Serenyi, D. (2021). Colossus under the hood: a peek into Google’s scalable storage system. (Links to an external site.) Retrieved from: <a href="https://cloud.google.com/blog/products/storage-data-transfer/a-peek-behind-colossus-googles-file-system">https://cloud.google.com/blog/products/storage-data-transfer/a-peek-behind-colossus-googles-file-system</a> (Links to an external site.)</p> <p>Meharau, V. (2021). BigQuery fundamentals and its benefits over Hive/Hadoop. (Links to an external site.) Clairvoyant. Retrieved from: <a href="https://blog.clairvoyantsoft.com/bigquery-fundamentals-and-its-benefits-over-hive-hadoop-c3d53e4d2b8f">https://blog.clairvoyantsoft.com/bigquery-fundamentals-and-its-benefits-over-hive-hadoop-c3d53e4d2b8f</a> (Links to an external site.)</p>

		<p><b>Additional Resources:</b></p> <p>SQL cheatsheet. (Links to an external site.) Retrieved from: <a href="https://drive.google.com/file/d/1Q3UA7ZOzkhlpQx6qVGN5YtpmrFRSOIMz/view">https://drive.google.com/file/d/1Q3UA7ZOzkhlpQx6qVGN5YtpmrFRSOIMz/view</a></p> <p><b>Homework:</b></p> <p>Create a SQL instance, create a table, and load data          Creating an instance, dataset, and table in Cloud Spanner          Creating a database in BigQuery</p>
4	Feb 7 - 13	<p><b>Midterm</b></p>
5	Feb 14 - 20	<p><b>Lectures:</b></p> <p>CRISP-DM Download CRISP-DM</p> <p>Data Ingestion/Data Migration Download Data Ingestion/Data Migration</p> <p>Meet with teams</p> <p><b>Readings:</b></p> <p>What is CRISP-DM?(Links to an external site.) (Links to an external site.)          Data Science Process Alliance. Retrieved from: <a href="https://www.datascience-pm.com/crisp-dm-2/">https://www.datascience-pm.com/crisp-dm-2/</a>          Great Learning Team. (2020). Why using CRISP-DM will make you a better Data Scientist? (Links to an external site.) (Links to an external site.)Retrieved from: <a href="https://www.mygreatlearning.com/blog/why-using-crisp-dm-will-make-you-a-better-data-scientist/">https://www.mygreatlearning.com/blog/why-using-crisp-dm-will-make-you-a-better-data-scientist/</a>          10 Reasons Highlighting the Importance of Team Building.(Links to an external site.) (Links to an external site.) Retrieved from: <a href="https://blog.vantagecircle.com/importance-of-team-building/">https://blog.vantagecircle.com/importance-of-team-building/</a> (Links to an external site.) (Links to an external site.)          Thallam, R. (2020). BigQuery explained: How to ingest data into BigQuery so you can analyze it. Retrieved from:</p>



		<p><a href="https://cloud.google.com/blog/topics/developers-practitioners/bigquery-explained-data-ingestion">https://cloud.google.com/blog/topics/developers-practitioners/bigquery-explained-data-ingestion</a>(Links to an external site.) (Links to an external site.)</p> <p>Pierce, S. &amp; Tekiner, F. (2021). What type of data processing organization are you? Retrieved from: <a href="https://cloud.google.com/blog/products/data-analytics/data-driven-transformation-using-googles-unified-analytics-platform">https://cloud.google.com/blog/products/data-analytics/data-driven-transformation-using-googles-unified-analytics-platform</a>(Links to an external site.) (Links to an external site.)</p> <p><b>Homework:</b></p> <p>Harvesting Twitter Data</p> <p>Joining Information from Two Different Publicly Available Datasets</p> <p>Team Contract</p> <p><b>Additional Resources:</b></p> <p>IBM SPSS Modeler CRISP-DM Guide. Download IBM SPSS Modeler CRISP-DM Guide. This is a good example of what questions to ask and examples of specific businesses. Only focus up through pages 12 - 24.</p> <p>Maher, S. (2021). 5 cheat sheets to help you get started on your Google Cloud journey. Retrieved from: <a href="https://cloud.google.com/blog/products/gcp/5-google-cloud-product-cheat-sheets-2021">https://cloud.google.com/blog/products/gcp/5-google-cloud-product-cheat-sheets-2021</a> (Links to an external site.)</p> <p>Migration to Google Cloud: Getting started. Retrieved from: <a href="https://cloud.google.com/architecture/migration-to-gcp-getting-started?hl=en">https://cloud.google.com/architecture/migration-to-gcp-getting-started?hl=en</a> (Links to an external site.)</p> <p>Migration to Google Cloud: Assessing and discovering your workloads. Retrieved from: <a href="https://cloud.google.com/architecture/migration-to-gcp-assessing-and-discovering-your-workloads?hl=en">https://cloud.google.com/architecture/migration-to-gcp-assessing-and-discovering-your-workloads?hl=en</a> (Links to an external site.)</p> <p>Migration to Google Cloud: Building your foundation. Retrieved from: <a href="https://cloud.google.com/architecture/migration-to-google-cloud-building-your-foundation?hl=en">https://cloud.google.com/architecture/migration-to-google-cloud-building-your-foundation?hl=en</a> (Links to an external site.)</p> <p>Migration to Google Cloud: Transferring your large datasets. Retrieved from: <a href="https://cloud.google.com/architecture/migration-to-google-cloud-transferring-your-large-datasets?hl=en">https://cloud.google.com/architecture/migration-to-google-cloud-transferring-your-large-datasets?hl=en</a> (Links to an external site.)</p>
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		<p>Migration to Google Cloud: Deploying your workloads. Retrieved from: <a href="https://cloud.google.com/architecture/migration-to-gcp-deploying-your-workloads?hl=en">https://cloud.google.com/architecture/migration-to-gcp-deploying-your-workloads?hl=en</a> (Links to an external site.)</p> <p>Migration to Google Cloud: Migrating from manual deployments to automated, containerized deployments. Retrieved from: <a href="https://cloud.google.com/architecture/migration-to-google-cloud-automated-containerized-deployments?hl=en">https://cloud.google.com/architecture/migration-to-google-cloud-automated-containerized-deployments?hl=en</a> (Links to an external site.)</p> <p>Migration to Google Cloud: Optimizing your environment. Retrieved from: <a href="https://cloud.google.com/architecture/migration-to-google-cloud-optimizing-your-environment?hl=en">https://cloud.google.com/architecture/migration-to-google-cloud-optimizing-your-environment?hl=en</a> (Links to an external site.)</p>
6	Feb 21 - 27	<p><b>Lecture:</b></p> <p>Data Preparation</p> <p>Data Queries with BigQuery</p> <p><b>Readings:</b></p> <p>Green, J. (2021). 5 great features in BigQuery's New UI for 2021 (yes, it has tabs). Retrieved from: <a href="https://towardsdatascience.com/5-great-features-in-bigquerys-new-ui-for-2021-yes-it-has-tabs-c4bac66d66b">https://towardsdatascience.com/5-great-features-in-bigquerys-new-ui-for-2021-yes-it-has-tabs-c4bac66d66b</a> (Links to an external site.)</p> <p>Yung, Z. (2021). BigQuery tutorial: How to add agility to your business. (Links to an external site.) Retrieved from: <a href="https://blog.coupler.io/bigquery-tutorial/">https://blog.coupler.io/bigquery-tutorial/</a> (Links to an external site.)</p> <p><b>Homework:</b></p> <p>Data Prep with OpenRefine</p> <p>BigQuery queries</p> <p><b>Additional Resources:</b></p> <p>This is a good source for Documentation and Tutorials on OpenRefine. (Links to an external site.) Retrieved from: <a href="https://openrefine.org/">https://openrefine.org/</a> (Links to an external site.)</p> <p>BigQuery code samples. (Links to an external site.) Retrieved from: <a href="https://cloud.google.com/bigquery/docs/samples">https://cloud.google.com/bigquery/docs/samples</a> (Links to an external site.)</p> <p>BigQuery Documentation. (Links to an external site.) Retrieved from:</p>

		<a href="https://cloud.google.com/bigquery/docs">https://cloud.google.com/bigquery/docs</a> (Links to an external site.) How to query and calculate Google Universal Analytics data in BigQuery. (Links to an external site.) Retrieved from: <a href="https://medium.com/@jhnvdw/how-to-query-and-calculate-google-analytics-data-in-bigquery-cab8fc4f396#f2c8">https://medium.com/@jhnvdw/how-to-query-and-calculate-google-analytics-data-in-bigquery-cab8fc4f396#f2c8</a> (Links to an external site.) BiqQuery public datasets (Links to an external site.). Retrieved from : <a href="https://cloud.google.com/bigquery/public-data">https://cloud.google.com/bigquery/public-data</a> (Links to an external site.)
7 & 8	Feb 28 – Mar 11	<b>Group Project Presentation</b>

### GRADING POLICY

The student's grade in the course consists of the following components:

<b>Homework Assignments:</b>	34%
<b>Discussions/Attendance:</b>	10%
<b>Midterm:</b>	28%
<b>Final Group Project:</b>	28%

The final letter grade will be determined as follows:

• A: 90 – 100 • B: 80 – 89 • C: 65 – 79 • D: 50 – 64 • F: < 50

### Access & Navigation

#### Access and Log in Information

This course was developed and will be facilitated utilizing the University of North Texas' resources. To be able to access the UNT systems, the student will need his/her EUID and password. If you do not know your EUID or have forgotten your password, please go to the website at <http://ams.unt.edu>.

### 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) (<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) (<https://community.canvaslms.com/docs/DOC-10554-4212710328>)

### Course Policies

#### Class Participation

Attendance is expected for this class and accounts for 10% of your grade. Only one absence is allowed without prior communication with the professor. Students are also required to participate in all class activities such as discussion boards, chat or conference sessions, and group projects.

Here is the student responsibility as per Policy 06.039 Student Attendance and Authorized Absences: Student Responsibility. The student is responsible for regular and punctual attendance and is expected to participate in all courses in which the student is enrolled. As you see, "punctual attendance" is also expected. If a student is late more than 2 times during a semester, this will also affect their grade. This could be the difference between an "A" and a "B".

To learn more about campus resources and information on how you can achieve success, go to <https://succeed.unt.edu>.

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

#### **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.

#### **Attendance**

Students are expected to attend class meetings regularly and to abide by the attendance policy established for the course. It is important that you communicate with the professor and the instructional team prior to being absent, so you, the professor, and the instructional team can discuss and mitigate the impact of the absence on your attainment of course learning goals. Please inform the professor and instructional team if you are unable to attend class meetings because you are ill, in mindfulness of the health and safety of everyone in our community.

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.

#### **Course 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, microphone and a video playback software 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>

### **Academic 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.

#### **Scholarly Expectations**

All works submitted for credit must be original works created by the scholar uniquely for the class. It is considered inappropriate and unethical to make duplicate submissions of a single work for credit in multiple classes, unless specifically requested by the instructor. Students must submit their own work. It is **unacceptable** to copy work from another student or copy and paste from a website. If your work is

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copied from another student, the web, or any other source, **you will receive a Zero** for the assignment **and you will be reported** to the Academic Integrity Office, on the first offense. If you are caught a second time, you **will get a Zero** for the course and **will be again reported** to the Academic Integrity Office. **There are no exceptions!** Once you have been notified and given a chance to explain the circumstance, no further communication will be accepted by the professor. I am taking time out of class instruction to present a lecture on plagiarism. If you still do not understand, either contact me or another credible resource as ignorance of the law is **NO** excuse.

**PLEASE NOTE:** “**Plagiarism** is a very serious offense at UNT. Even if you don't mean to plagiarize, you can still commit academic dishonesty. When you are accepted to UNT, you are expected to adhere to our policies and standards of Academic Integrity (as defined in University 07.012) in the Code of Student Conduct. Major violations can result in expulsion from the university. “ Anyone that has plagiarized in an assignment will get a zero for the assignment on the first offense. If that student plagiarizes again, they will receive a zero for the class and will be reported to the university’s Academic Integrity Office, no exceptions. Please see <https://guides.library.unt.edu/plagiarism/atunt#:~:text=Plagiarism%20is%20a%20very%20serious%20offense%20at%20UNT.&text=When%20you%20are%20accepted%20to,in%20expulsion%20from%20the%20university> for more information on plagiarism.

### **Instructor Responsibilities and Feedback**

The instructor is responsible for responding to student questions about assignments and projects, about the course material presented, and for providing additional resources to enhance understanding of course material. Timely feedback is essential for student success and the instructor is responsible for providing timely feedback to students throughout the course. The instructor will grade submitted assignments and will post grades for students within 10 days of assignment due date.

### **Virtual Classroom Citizenship**

The same guidelines that apply to traditional classes should be observed in the virtual classroom environment. Please use proper netiquette when interacting with class members and the professor.

### **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

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

### **Incompletes**

This course will observe the UNT policy on incompletes, found here:

<http://registrar.unt.edu/grades/incompletes>

### **Add/Drop Policy**

The University of North Texas Add Drop Policy can be found at the following link:

<http://registrar.unt.edu/registration/fall-add-drop>

### **Policy on Server Unavailability or Other Technical Difficulties**

The University 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 also contact the UNT Student Help Desk: helpdesk@unt.edu or 940.565.2324. The instructor and the UNT Student Help Desk will work with the student to resolve any issues at the earliest possible time.

### **Copyright Notice**

Some or all of the materials on this course Web site may be protected by copyright. Federal copyright law prohibits the reproduction, distribution, public performance, or public display of copyrighted materials without the express and written permission of the copyright owner unless fair use or another exemption under copyright law applies. Additional copyright information may be located at

<http://copyright.unt.edu>.

### **Graduate Online Course Attendance Policy**

Students are expected to participate actively each week and to meet all deadlines for course assignments as detailed in the Course Calendar. *Information about the University of Texas' Attendance Policy may be found at* <http://policy.unt.edu/policy/15-2-5>

### **Administrative Withdrawal**

*Advanced Data Analytics – Toulouse Graduate School – University of North Texas*



# ADTA 5240 & IPAC 4240: Methods for Discovery and Learning from Data

## Fall 2021

This course will observe the UNT policy on academic withdrawal found here:

<https://deanofstudents.unt.edu/withdrawals>

### Syllabus Change Policy

*Changes to the course syllabus or due dates are not anticipated but should they be necessary, the instructor will provide ample notification to students to allow them to complete assignments in a timely manner without penalty.*

### UNT GENERAL POLICIES

**Student Conduct and Discipline:** [\*Student Handbook\*](#).

You are encouraged to become familiar with the University's Policy of Academic dishonesty found in the [\*Student Handbook\*](#). The content of the Handbook applies to this course. If you are in doubt regarding the requirements, please consult with me before you complete any requirements of the course.

The UNT Code of Student Conduct can be found here:

[https://deanofstudents.unt.edu/sites/default/files/code\\_of\\_student\\_conduct.pdf](https://deanofstudents.unt.edu/sites/default/files/code_of_student_conduct.pdf)

### ADA Policy

*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. ... 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. Students are strongly encouraged to deliver letters of accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information see the Office of Disability Accommodation website at <http://disability.unt.edu/>. You may also contact them by phone at 940.565.4323.*

### 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.

*Advanced Data Analytics – Toulouse Graduate School – University of North Texas*



### **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) (<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](https://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) (<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 November 15 – December 2 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" ([noreply@iasystem.org](mailto:noreply@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/) (<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.

### 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 at <http://www.oea.gov/index.php/links/electronic-code-of-federal-regulations>. The specific portion concerning distance education courses is located at "Title 8 CFR 214.2 Paragraph (f) (6) (i) (G)" and can be found buried within this document: <http://www.gpo.gov/fdsys/pkg/CFR-2012-title8vol1/xml/CFR-2012-title8-vol1-sec214-2.xml>

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.

#### 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 940-5652195 or email [internationaladvising@unt.edu](mailto: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) (<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 classes will be recorded for this class and possibly future classes for study purposes only.

### Class Recordings & Student Likenesses

All the video recordings in this course, including lecture videos and live class activity recordings are for students enrolled in the 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

*Advanced Data Analytics – Toulouse Graduate School – University of North Texas*

### *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-andwellness-center) (<https://studentaffairs.unt.edu/student-health-andwellness-center>)
- [Counseling and Testing Services](https://studentaffairs.unt.edu/counseling-and-testingservices) (<https://studentaffairs.unt.edu/counseling-and-testingservices>)
- [UNT Care Team](https://studentaffairs.unt.edu/care) (<https://studentaffairs.unt.edu/care>)
- [UNT Psychiatric Services](https://studentaffairs.unt.edu/student-health-and-wellnesscenter/services/psychiatry) (<https://studentaffairs.unt.edu/student-health-and-wellnesscenter/services/psychiatry>)
- [Individual Counseling](https://studentaffairs.unt.edu/counseling-and-testingservices/services/individual-counseling) (<https://studentaffairs.unt.edu/counseling-and-testingservices/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 inperson. 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) (<https://registrar.unt.edu/registration>)

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

#### Academic Support Services

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