

Course Number: INFO 4670
**Course Title: Data Analysis and
Knowledge Discovery Course**
Section(s): 402&403

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SYLLABUS
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Table of Contents

COURSE INFORMATION	1
Instructors Contact Information.....	1
Course Structure	1
Course Description	1
Course Goals.....	1
Materials	2
TECHNICAL SUPPORT AND ASSISTANCE.....	2
Minimum Technical Skills Needed.....	2
Success in the Online Course	2
Student Academic Support Services.....	2
COURSE MODULES, TOPICS, AND LECTURES	3
ASSESSMENT & GRADING	3
Assignments and Assessments.....	3
Grading	4
Grading Table.....	4
Final Examination:.....	5
COURSE EVALUATION.....	5
COURSE POLICIES	5
Assignment Policy	5
Examination Policy.....	5
Instructor Responsibilities and Feedback	5
Late Work and Missed Work	5
Course Incomplete Grade	5
Attendance Policy.....	5
Class Participation	6
Syllabus Change Policy	6
UNT POLICIES.....	6
Academic Integrity Policy	6
ADA Policy.....	6
Emergency Notification & Procedures	6
Optional UNT Policies Statements	6
Retention of Student Records	6

Acceptable Student Behavior 7

Access to Information - Eagle Connect 7

Student Evaluation Administration Dates..... 7

Sexual Assault Prevention 7

Use of Student Work..... 7

COURSE INFORMATION

- Course Name: INFO 4670
- Course Title: Data Analysis and Knowledge Discovery
- Course Section(s): 402 & 403
- Credit Hours: 3 Hours
- Class Meeting: Online
- Course Pre-requisites: None.
- Course Format: Asynchronous/Synchronous Online

Instructors Contact Information

- Name: Dr. Ijay Kaz-Onyeakazi
- Adjunct Professor, Department of Information Science
- UNT Email: ijay.kazonyeakazi@unt.edu
- Office Hours: Online by appointment via email.
- Communication: The best way to reach me is by the Canvas email tool. Always ensure that your course and section is included in your communications.

Course Description

This course will introduce the student to data analysis, data mining, text mining, and knowledge discovery principles, concepts, theories, and practices. It is designed for aspiring or practicing information professionals and covers the basics of working with data from a hands-on and practical perspective. Classes will incorporate lectures, discussions, the practice of learned concepts, and readings. The student will learn how to approach data and data mining tasks and techniques using Microsoft Excel and RapidMiner tool through practice exercises and instructor-led training. They will learn the basic principles and theories of data mining and text mining techniques, as well as the business application of data mining and knowledge discovery tools.

Course Structure

The two sections will meet online via Zoom every Tuesday, 12 pm-2:30 pm Central Time. Participation in weekly class meetings is optional, and videos will be available on Canvas for those who are unable to attend the meeting. To succeed in this class, students are expected to attend online meetings or watch meeting recordings, read assigned textbook readings, and participate in class discussions. The class will have two group projects for the semester and these will count hugely towards students' success to this class.

Course Goals

- Students will actively engage and participate in discussion forums within the learning community by analyzing, constructing/creating, and evaluating the information presented within the textbook, external readings/resources, student research, and class activities.
- Students will be able to demonstrate an understanding of the fundamental principles, concepts, theories, and practices of data analysis, data mining, and knowledge discovery, and discuss the interplay between them.
- Students will apply gained knowledge to solve real problems with datasets provided using skills developed in the course. Students will be able to construct an appropriate bibliography in APA7 from scholarly sources of material for study and research.

Materials

Required Textbooks

1. North, M. (2018). Data Mining for The Masses. Third Edition: With Implementations in RapidMiner and R. ISBN-10: 1727102479, ISBN-13: 978-1727102475
2. Winston, W. (2019). Microsoft Excel 2019 Data Analysis and Business Modeling, 7th Edition. Microsoft Press, ISBN-13: 978-0137613663

Textbook materials: <https://sites.google.com/site/dataminingforthemasses3e/>
<https://docs.rapidminer.com/2025.1/resources/pdf/DataMiningForTheMasses.pdf>

Recommended for Excel beginners

1. Etheridge, D. (2010). Excel Data Analysis: Your visual blueprint for creating and analyzing data, charts and Pivot tables. (3rd ed.). Indianapolis: Wiley Publishing, Inc. Available at: <http://iii.library.unt.edu/record=b4558404~S12>

TECHNICAL SUPPORT AND ASSISTANCE

The UNT University Information Technology provides student IT services and technical support, including Canvas.

- UIT Homepage: <https://it.unt.edu/uit>
- Email: helpdesk@unt.edu
- Phone: 940.565-2324
- In Person: Sage Hall, Room 330

Canvas technical requirements: <https://clear.unt.edu/supported-technologies/canvas/requirements>

Devices and Tools required:

-A personal computer, either Windows or Mac OS, capable of accessing Canvas.

-**Microsoft Excel 2013 or above.**

-Check your computer's compatibility with RapidMiner software:

<https://my.rapidminer.com/nexus/account/index.html#downloads>

Minimum Technical Skills Needed

Students should be able to use the learning management system – Canvas to access course related materials and resource, keep up with emails regularly, create, modify or submit files according to instructors' direction, such as proper file format, be able to download and install software when needed, and utilize the basics of the Microsoft Suite (Word, Excel, Power Point).

Success in the Online Course

While the online classroom shares many similarities with the face-to-face classroom, success in online education requires certain skills and expectations that students should be aware of. Read more about "[How to Succeed as an Online Student.](#)"

Student Academic Support Services

- [Code of Student Conduct](#): provides the Code of Student Conduct along with other useful links

- [Office of Disability Access](#): exists to prevent discrimination based on disability and to help students reach a higher level of independence
- [Counseling and Testing Services](#): provides counseling services to the UNT community, as well as testing services; such as admissions testing, computer-based testing, career testing, and other tests
- [UNT Libraries](#)
- [UNT Learning Center](#): provides a variety of services, including tutoring, to enhance the student academic experience
- [UNT Writing Center](#): offers free writing tutoring to all UNT students, undergraduate and graduate, including online tutoring
- [Succeed at UNT](#): information regarding how to be a successful student at UNT

COURSE MODULES, TOPICS, AND LECTURES

INFO 4670 is organized into 9 Learning Modules:

- Module 1: Introduction to Data Mining and CRISP-DM
- Module 2: Data Modeling Basics with Excel
- Module 3: Introduction to Data Preparation and Transformation with RapidMiner (AI Studio)
- Module 4: Data Operations – Excel functions and formulas
- Module 5: Introduction to Knowledge Discovery – Correlation and Association Rules with RapidMiner (AI Studio)
- Module 6: Correlations and R-squared with Excel
- Module 7: Data Modeling Basics – Logistic and Linear Regression
- Module 8: Data Visualization
- Module 9: Advanced data and data mining techniques - Decision Trees & Clustering

ASSESSMENT & GRADING

Assignments and Assessments

Quizzes (20 %)

For each learning module there will be a quiz with a combination of multiple-choice questions, one word answer and short answer questions.

Assignments for Learning Modules (25%)

The course is comprised of nine learning modules. Each learning module has an overview, assigned readings, and supplementary readings.

There are a total of five assignments listed under five modules.

MidTerm(25%)

In the midterm project you will have a midterm assessment and a quiz.

Data Analysis Project (30%)

The final project for the course will be a project using the data mining software, Rapid Miner, and Excel. The format and detailed instructions for the project will be provided before the distribution of the project.

Grading

Grading Table

	%Percentage
Quizzes	20%
Assignments	25%
Midterm	25%
End-of-semester Project	30%
TOTAL	100%

Total Points Possible for Semester/Grading Scale = 100

<i>100-90 = A</i>
<i>89-80 = B</i>
<i>79-70 = C</i>
<i>69-60 = D</i>
<i>59-50 = F</i>

Final Examination:

There is no final exam in this course. This will be replaced with the end-of-semester group project

COURSE EVALUATION

Student Perceptions of Teaching (SPOT) is the student evaluation system for UNT, implemented in summer 2015, to comply with the State of Texas House Bill 2504. Each semester, student will receive an email from UNT to their student UNT email to respond to the anonymous survey. For more information, visit the Office of the Provost, SPOT page: <https://vpaa.unt.edu/spot>

COURSE POLICIES

Assignment Policy

This course uses Turnitin for assignment submissions. 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 that prevents students from completing a time-sensitive assessment activity, the instructor will extend the time windows and provide an appropriate accommodation based on the situation. Students should immediately report any problems to the instructor and contact the UNT Student Help Desk: helpdesk@unt.edu or 940.565.2324. The instructor and the UNT Student Help Desk will work with the student to resolve any issues at the earliest possible time.

Examination Policy

The quizzes and assignments are open-book.

Instructor Responsibilities and Feedback

The instructor will post feedback on quizzes and assignments within 1 week of the deadlines of the assignment.

Late Work and Missed Work

Students are expected to submit assignments and projects on time. **The due dates for quizzes and assignments are Sundays at 11:59 pm unless mentioned otherwise.** If an extenuating circumstance, such as a medically diagnosed illness or family emergency, arises, which prevents you from submitting your assignments, you should contact the instructor as soon as possible before the due date. **Late work without the permission of the instructor will receive a grade with a 10% penalty per day after the due date until a full week has passed, after which the assignment will not be accepted.** A student who is having trouble with the assignments is strongly encouraged to contact the instructor as early as possible for personal advising.

Course Incomplete Grade

The UNT Graduate Catalog (<https://registrar.unt.edu/grades/incompletes>) describes and explains grading policies. A grade of Incomplete (I) will not be given for this course. Should a student want to drop the class, please let the instructor know. Please find the information for dropping a [class](#) or [course](#).

Attendance Policy

Attendance is not mandatory for synchronous online meetings.

Class Participation

Students are expected to actively participate in the online discussions and check the course content on Canvas.

Syllabus Change Policy

Any changes to the syllabus will be notified to the students via announcements on Canvas and/or emails from the instructor.

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 at disability.unt.edu.

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 Blackboard for contingency plans for covering course materials.

Optional UNT Policies Statements**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 Blackboard 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. The Code of Student Conduct can be found at deanofstudents.unt.edu/conduct.

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: eagleconnect.unt.edu/

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 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 at <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.

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

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.ecfr.gov/>. The specific portion concerning distance education courses is located at Title 8 CFR 214.2 Paragraph (f) (6) (i) (G).

The paragraph reads:

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

University of North Texas Compliance

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

- (1) Submit a written request to the instructor for an on-campus experiential component within one week of the start of the course.
- (2) Ensure that the activity on campus takes place and the instructor documents it in writing with a notice sent to the International Student and Scholar Services Office. ISSS has a form available that you may use for this purpose.

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

Student Verification

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

See [UNT Policy 07-002 Student Identity Verification, Privacy, and Notification and Distance Education Courses](#).

