



IT 3703 INTRODUCTION TO DATA ANALYTICS AND TECHNOLOGY

Fall 2022

Meeting Times/Location

Time: online

Contact Information

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Office Hours: Mondays 3-4 pm, Wednesdays 1:00-2:30 pm, Thursdays 10:30-11:15 am and 1:00-2:30 pm.

By appointment daily as needed in-person or via MS Teams.

Preferred method of communication: D2L email

Course Communication

Email is the best way to reach me when there are questions and concerns. Use the D2L email if possible. My dtucke36@kennesaw.edu should only be used when you don't have access to the D2L Site. I will reply to e-mails within 24 hours on weekdays. Weekend and holidays would not apply. When reaching out include the course that you are enrolled in the subject line. E-mails where I cannot easily identify what course will delay the response time turnaround.

Description

This course provides a comprehensive overview of processing technologies, systems, and application. Latest trends in data analytics, big data, and data science will be introduced.

Credit Hours: 3

Prerequisites: IT 3123 Hardware and Software

Concurrent registration: CSE 3153 or CS 3410

Objectives

Students who complete this course successfully will be able to:

1. Describe the role of data and data technologies in today's organizational environments.
2. Identify key functional areas and trends in data management and analytics.

3. Describe common data formats and models used in data driven solutions.
4. Compare and contrast technologies, systems, and approaches used for data and information management.
5. Analyze the general process and the methods involved in a data analytics solution.
6. Build analytical reports from datasets.

Materials/Textbooks

Course Website

D2L Brightspace: <https://kennesaw.view.usg.edu>

- It's important to know how to use this learning management system for: following learning modules, submitting assignments, checking grades and feedback, downloading files, participating discussion boards, etc.
- Please check the course site regularly for important announcements and other issues.

Learning Materials

- **Required Textbook: None.**
- Required readings (from different sources) will be assigned in each learning module.

Required Software/Hardware

- Software that can open and/or edit Word, PowerPoint, Excel, PDF, and ZIP files.

Evaluation

Weighted by Percentage:

Category	Weight
Tests (3)	60%
Labs/assignments	40%
Total	100%

Grade Conversion

A: (90-100), B: (80-89), C: (70-79), D: (60-69), F: (0-59)

*** Detailed grading criteria are available in D2L for how Discussions and Projects will be graded. ***

Course Outline

Below is an outline of the course content. Please refer to the schedule file and D2L calendar for the due dates of assignments.

Week	Begin Date	Learning Module #	Module	Topics/Activities	Work Due and Other Reminders*
1	08/16		Orientation	Getting started	
2	08/16	1	Introduction	The world of data, technologies, applications	
3	08/23	2	Analytics	Intro to analytics	
4	08/30	3	Data model	Data models, data types, modeling	Lab 1
5	09/06	4	Data formats	Data sources and formats	
6	09/13			Quiz time	Quiz 1
7	09/20	5	Data preparation	Data integration, cleanse, transformation	
8	09/26	6	Data storage	Data storage and management technologies	Lab 2
9	10/03			<i>Spring Break</i>	
10	10/10	7	Data analysis	Descriptive, OLAP, dimensional analysis	
11	10/17	8	Advanced Analytics	Data mining, predictive, ML	Lab 3
12	10/31			Quiz time	Quiz 2
13	11/08	9	Data visualization	Data visualization, dashboard, mapping	
14	11/14	10	Business Intelligence	Traditional and modern BI and analytics	
15	11/21	11	Data science	Data science overview	Lab 4
16	12/5			Quiz time	Quiz 3
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Course Policies

Announcement

Important announcements will be made to the class electronically through the D2L Announcements tool. It is important that you check your D2L account regularly for announcements, assignments, and course updates.

Assignments, Quizzes, & Exams Policy

- All assignments **MUST** be submitted through D2L (<https://kennesaw.view.usg.edu/>) by the deadline. Email submissions are **NOT** accepted. Any assignment that is less than 24 hours late is subject to 10% penalty. Any assignment that is more than 24 hours late will **NOT** be accepted.
- All quizzes and/or exams **MUST** be completed on D2L website by the deadline. The quizzes and/or exams can't be opened/submitted after the deadline.
- If you must miss an exam due to illness, you must e-mail or call the instructor before the scheduled time. Failure to notify the instructor prior the scheduled time will produce an automatic zero for the exam. NO makeup test except for emergencies with proof (e.g. doctor's slip).

Discussions

People learn through interactions, to facilitate interactive learning this course will use the Discussions feature in D2L. Discussions will take place in an **asynchronous** manner.

Grading

Grades will be posted in D2L, generally within one week from the due date or submission date whichever is later. Significant assignments such as projects may take longer to grade. If you think there is an error, please make a re-grading request by e-mail within one week of grade posting. A request for reassessment will not be granted if more than two weeks have passed since the grade in question was posted. Please check your grades in D2L regularly.

No “extra credit” work will be given to improve one’s grade. Copies of your class work and test will be kept for record.

Assignment Submission Guidelines

All work turned in for this class must meet the submission guidelines presented in the Start Here module. Work that does not meet the submission criteria will not be graded. Scoring rubric will be provided for each assignment.

Attendance

Attendance in classes, laboratories and lectures is important. All students are expected to attend these activities in accordance with their schedule of courses. The instructor determines the attendance policy for each course. All instructors will provide the students, at the beginning of each semester, a clear statement regarding their policies in handling absences. Instructors will also be responsible for advising their students regarding the academic consequences of absences. To view the complete student attendance policy, please visit <http://catalog.kennesaw.edu/content.php?catoid=38&navoid=3019#attendancepolicy>.

Enrollment Status Statement - Students are solely responsible for managing their enrollment status in a course; nonattendance does not constitute a withdrawal.

Institutional Policies

Federal, BOR, & KSU Course Syllabus Policies

Information contained in the links below constitutes the Federal, BOR, and KSU course syllabus policies and procedures. These policies are updated on the Academic Affairs Website annually.

Academic Affairs - Federal, BOR, & KSU Policies

(<https://cia.kennesaw.edu/instructional-resources/syllabus-policy.php>)

Academic Affairs - KSU Student Resources

(<https://cia.kennesaw.edu/instructional-resources/syllabus-resources.php>)

Academic Integrity Statement

Every KSU student is responsible for upholding the provisions of the Student Code of Conduct, as published in the Undergraduate and Graduate Catalogs. Section 5c of the Student Code of Conduct addresses the university’s policy on academic honesty, including provisions regarding plagiarism and cheating, unauthorized access to university materials, misrepresentation/falsification of university records or

academic work, malicious removal, retention, or destruction of library materials, malicious/intentional misuse of computer facilities and/or services, and misuse of student identification cards. Incidents of alleged academic misconduct will be handled through the established procedures of the Department of Student Conduct and Academic Integrity (SCAI), which includes either an “informal” resolution by a faculty member, resulting in a grade adjustment, or a formal hearing procedure, which may subject a student to the Code of Conduct’s minimum one semester suspension requirement. See also KSU Student Code of Conduct (<https://web.kennesaw.edu/scai/content/ksu-student-code-conduct>).

Confidentiality and Privacy Statement (FERPA)

Kennesaw State University adheres to the Family Educational Rights & Privacy Act of 1974 – FERPA. See the following link for more information:

<http://www.usg.edu/information-technology-handbook/section9/tech/9.5-privacy-and-security>

University – Student Rights & Responsibilities

Students of Kennesaw State University are entitled to an environment that is conducive to learning and individual growth. To this end, students enrolling at Kennesaw State University assume a responsibility to abide by the policies and regulations expressed in this section. By doing so, students may fulfill their responsibilities and enjoy the exercise of their own rights while also respecting the rights of others.

See <http://catalog.kennesaw.edu/content.php?catoid=27&navoid=2263>

Ethics Statement

All students are responsible for knowing the information, policies and procedures outlined in the Kennesaw State University Codes of Conduct. The KSU Codes of Conduct include: the general Student Code of Conduct, the Residential Code of Conduct, and the Code of Academic Integrity. Kennesaw State University reserves the right to make changes to this code as necessary and once those changes are posted online, they are in effect. Students are encouraged to check online for the updated versions of all policies.

See <https://scai.kennesaw.edu/codes.php>

Sexual Misconduct Policy

Kennesaw State University is committed to providing programs, activities, and educational environment free from all forms of sex discrimination. For more information click here. KSU issues this statement of policy to inform the community of the University's comprehensive plan addressing sexual misconduct, educational programs, and procedures that address sexual assault, domestic violence, dating violence, and stalking, whether the incident occurs on or off campus. This policy generally covers faculty, students, and staff of the University, as well as third-parties. Third parties include but are not limited to guests, vendors, contractors, retirees, and alumni. Further information associated with this university policy can be found under sexual misconduct on the

Policy Portal website located at: <https://policy.kennesaw.edu/>

Course Accessibility Statement (ADA statement)

Kennesaw State University provides program accessibility and reasonable accommodations for persons defined as disabled under Section 504 of the Rehabilitation Act of 1973 or the Americans with Disabilities Act of 1990 as amended. Students who require accommodation in facilities, services, programs or activities should contact the Assistant Director for Disabled Student Services

to arrange an individual assistance plan. Accommodations may include classroom accessibility, modified computer equipment, disability-accessible parking, assistance with note-taking sign language interpreting or captioning services, class materials in alternate format, library and laboratory assistance, and other accommodations. Determination of appropriate accommodations to be provided will be based upon documentation of the disability. Members of the public who require specific accommodations in facilities, services, programs or activities should contact the office sponsoring the service, program or activity at least five days in advance to arrange individual accommodations. Eligible students deliver certification letters to faculty at the beginning of each semester identifying the accommodations approved for that student. Faculty members are also instructed that they must provide students with special needs appropriate accommodations in a timely manner. The Assistant Director for disAbled Student Support Services will work with faculty members to ensure that students receive appropriate accommodations. A student should notify Disabled Student Support Services in writing within two (2) days of any disagreement between the student and the faculty member if agreed upon academic adjustments are not provided in order to seek a resolution. A student who alleges discrimination on the basis of disability may file a grievance through the University's established grievance procedures. The following have been designated by the President of the University to provide assistance and ensure compliance with the ADA. Should a student require assistance or have further questions about the ADA, please contact either the ADA Compliance Officer for Students at 770-423-6443; the ADA Compliance Officer for Facilities at 470-578-6224; or the Director of Human Resources, ADA Compliance Officer for staff and faculty at 470-578-6030. For more information, go to kennesaw.edu/stu_dev/dsss.

Electronic Communication

The University provides all KSU students with an "official" email account with the address "students.kennesaw.edu" or "kennesaw.view.usg.edu" (in D2L). As a result of federal laws protecting educational information and other data, this is the sole email account you should use to communicate with your instructor or other University officials.

Web Accessibility

Kennesaw State University follows the guidelines of the Universal Design for Learning standard of web accessibility. Faculty use Word, PDF, and HTML formats when communicating electronic information to students whenever possible and appropriate in light of the goals of the course. Faculty are trained to use Web Accessibility Evaluation tools, e.g., WAVE (www.wave.webaim.org), and make adjustments as possible and appropriate in light of the goals of the course.

For free resources available to students on web accessibility, please visit the Web Accessibility Resources page at the Distance Learning Center:

<http://www.kennesaw.edu/dlc/facultyresources/index.php#>

Copyright Law

Kennesaw State University adheres to USG's policy to respect the right of copyright. Holders and comply with copyright laws as set forth in the United States Copyright act. For more information, see the following link to USG's policy: <http://www.usg.edu/copyright/>

Electronic Recording and Social Media

Electronic recording performed without the consent of the people being recorded chills the free exchange of ideas. Academic freedom, free inquiry, and freedom of expression should not be limited by the fear that one's brainstorming, polemic discourse, speculative inquiry, or any other kind of expressed curiosity made within the space of a university classroom will be made public without one's consent. This fear is unacceptable regardless of whether one is in an online, hybrid, or face-to-face classroom setting. Accordingly, no person shall make public any electronically recorded class discussion without the written permission of the instructor. This policy is not intended to discourage electronic recording in the classroom or the use of social media when such actions are performed with the written consent of the instructor, and others as appropriate. Note: Faculty accommodate all reasonable requests to electronically record a class discussion; these requests must be documented by the Disabled Student Support Services available at:

http://www.kennesaw.edu/stu_dev/dsss/prospect.shtml

KSU Statements on Course Delivery and COVID-19

Course Delivery

KSU may shift the method of course delivery at any time during the semester in compliance with University System of Georgia health and safety guidelines. In this case, alternate teaching modalities that may be adopted include hyflex, hybrid, synchronous online, or asynchronous online instruction.

COVID-19 illness

If you are feeling ill, please stay home and contact your health professional. In addition, please email your instructor to say you are missing class due to illness. Signs of COVID-19 illness include, but are not limited to, the following:

- Cough
- Fever of 100.4 or higher
- Runny nose or new sinus congestion
- Shortness of breath or difficulty breathing
- Chills
- Sore Throat
- New loss of taste and/or smell

COVID-19 vaccines are a critical tool in "Protecting the Nest." If you have not already, you are strongly encouraged to get vaccinated immediately to advance the health and safety of our campus community. As an enrolled KSU student, you are eligible to receive the vaccine on campus. Please call (470) 578-6644 to schedule your vaccination appointment or you may walk into one of our student health clinics.

For more information regarding COVID-19 (including testing, vaccines, extended illness procedures and accommodations), see KSU's official [Covid-19 website](#).

Face Coverings

Based on guidance from the University System of Georgia (USG), all vaccinated and unvaccinated individuals are encouraged to wear a face covering while inside campus facilities. Unvaccinated

individuals are also strongly encouraged to continue to socially distance while inside campus facilities, when possible.

Additional Items

Minimum Technology Requirements

- This class uses D2L as hosting site. Run a system check to ensure your computer work with D2L. Check out UITS D2L training: <http://uits.kennesaw.edu/support/d2ltraining.php>
- Internet Connection. A high-speed Internet connection such as DSL or cable Internet access is highly recommended. You can also computer labs on campus to complete the coursework.

Minimum Technical Skills Required

Students entering this course are expected to have following technical skills:

- General computer literacy. Students should be proficient with the basic functions of standard software packages (e.g., MS Word, Excel, PowerPoint, and Adobe Reader) and standard players (e.g., QuickTime, Windows Media Player). A list of primers on many of these technologies is available at https://apps.kennesaw.edu/portal/prod/app_uni_cdoc_publ/documents/
- A working knowledge of the D2L learning management system is required for participation in online courses.

Important Dates (For all dates – check D2L Calendar)

- First Day of Classes: August 16, 2021
- Breaks / Holidays: Labor Day: September 4-6, 2021 and Thanksgiving Break: November 22-28, 2021
- Last Day to Withdraw without penalty: October 21, 2021
- Last to Withdraw with A WF: November 23, 2021
- Last Day of Classes: December 6, 2021
- Graduation: December 14-15, 2021
- Grades Due: December 16, 2021

<https://registrar.kennesaw.edu/academic-calendars/>