

CPSC 415-02 — Special Topics: Data Analytics (Fall 2024)
Professor Nick Buly

Course Description (from Course Catalog):

A comprehensive introduction to data analytics, focusing on the essential techniques and tools used to analyze and interpret complex datasets. Students will learn how to collect, clean, and process data to extract meaningful insights and inform decision-making. The course covers various statistical methods, machine learning algorithms, visualization techniques, and data-focused programming. By the end of the course, students will have mastered a variety of tools and programming languages, enabling them to address real-world problems with data-driven solutions.

Objectives and Expectations:

- Understand the value in data and analytics
- Have learned how companies/entities have benefited and also failed from their data
- Understand the vast complexities with data
- Have learned about ethics regarding data
- Have gained hands-on experience with GitHub
- Have gained hands-on experience with SQL
- Have gained hands-on experience with databases
- Have gained hands-on experience with data visualization tools
- Have built an entire analytical solution of your own
- Have completed a business case that demonstrates real-life scenarios of this material

Course Meeting:

Monday evenings from 6:30 - 9:00pm in MECC 220

Moodle Page:

<https://moodle.trincoll.edu/course/view.php?id=10227>

Professor:

Nick Buly
nbuly@trincoll.edu

Office Hours:

I plan to hold office hours on an ad-hoc basis to start this semester. I am more than happy to make time to meet with you outside of class, and will do everything I can to make that happen. Please reach out to me if you would like to meet, and we will find time either in-person or virtually.

Course Grading:

Attendance and Participation	10%
Homework Assignments	30%
Generative AI Project	15%
Business Case Project	15%
Final Project	30%

Assignments:

Assignments will be completed either individually or as a group. Please cite all sources for every submission, whether that's an internet source, another person, a friend, etc etc. I encourage working cooperatively and helping each other out, but copying anything from anyone or any source is not allowed.

Homework assignments will consist of short reading/writing assignments, programming assignments, free response questionnaires/surveys. These will be assigned every 1-2 weeks.

Our Generative AI project will focus on how valuable of a tool Generative AI can be for us, and how to properly use it.

Our Business Case project will model a real-life scenario, while giving you freedom to pick a medium/theme that interests you.

Our final project will be a deliverable of a fully functioning analytical solution. It will combine everything we have learned over the semester and give you the freedom to focus on something that interests you.

Course Materials:

I will provide you with any materials we need for this course. Most materials will be slides or documents we review in class, and the rest will be free online resources.

Course Policies:

You are expected to attend class in-person on a weekly basis. If for some reason you cannot make it, please reach out to be beforehand to let me know. Attendance will count towards the participation component of your grade.

Regarding late assignments — reach out to me before the assignment is past due if you need an extension. Without prior notice, late assignments can receive up to a 10-point-per-day-late penalty.

Generative AI Usage:

It seems like everybody uses tools like ChatGPT for just about everything these days. We will review these tools in class and talk about how to properly use them. If you use ChatGPT or any other Generative AI tool for anything in this class, you need to cite that you used it and include the entire chat history that you had with the tool.

Academic Dishonesty:

Cases of academic dishonesty will be handled in accordance with the rules of Trinity College. Incidents of academic dishonesty void the grading policy and, in such cases, the final grade assigned for the term is at the discretion of the instructor.

Accommodations:

Trinity College is committed to creating an inclusive and accessible learning environment consistent with the Americans with Disabilities Act. Students with disabilities who may need some accommodation in order to fully participate in this class are urged to contact the Student Accessibility Resource Center, as soon as possible, to explore what arrangements need to be made to assure access.

If you have approval for academic accommodations, please notify me by the end of week two of classes. For those students with accommodations approved after the start of the semester, a minimum of 10 days' notice is required. Please be sure to meet with me privately to discuss implementation.

Student Accessibility Resources can be reached by emailing SARC@trincoll.edu.

Trinity College Academic Dishonesty Signature

"All students must sign the following declaration at the first meeting of every course: In accordance with Article II of the Trinity College Student Integrity Contract, I hereby pledge that the papers, exams, and other academic exercises I submit for this course will represent my own work; that I will properly acknowledge and attribute any and all information and ideas that I have used from other sources; and that no collaboration unauthorized by the instructor of the course will occur in the course of its completion."

I have read and understood the class syllabus and policy statement, especially as pertains to grading, academic dishonesty, classroom policies and required meetings outside of class time.

Name: _____ **Email:** _____

Emailing this document to nbuly@trincoll.edu will act as a signature acknowledging that you have read and understood this statement.