
GSC Campus: Online

Term/Year Winter 2023

Course Dates: Start Date: 01/02/2023 – End Date: 03/24/2023

Meeting Times: Optional throughout the class

Instructor Name: Dr. Tony Sulpizio (Dr. T)

Email Address: arsulpizio@granite.edu

Phone #: 860-334-9668, Texting is okay. Just provide name and course.

Availability: Tuesday and Thursday 5 to 8pm est. Email we can set up another time.

The most updated version of this syllabus is available in Canvas.

Course Description

This course will cover data mining, cleaning, and visualization preparation, including what data mining is and how it pertains to data analytics. Data cleaning and preparation for data analysis will also be covered. Students will have the opportunity to learn about data visualizations, which includes data modeling, mapping data attributes to graphical attributes, and using data visualization tools.

PREREQUISITE(S): DATA 510 Introduction to Data Analytics

Learning Outcomes

1. Define data mining and how it can be used in data analytics.
2. Identify the data that are needed for data analysis.
3. Prepare data for analysis using tools and techniques.
4. Present data visuals for the analysis.
5. Recognize effective and ineffective data visualizations.

Course Resources

The following resources are available via GSC's online bookstore: <https://www.granite.edu/books>

Title	Author	Edition	Year	ISBN #	Required
DMBOK Version 2 – Latest Version [Should have this from previous Class]					Yes
Data Mining for Business Analytics: Concepts, Techniques and Applications in Python, Galit Shmueli 1st Edition 978-1119549840***					Yes
Data Visualization with Excel Dashboards and Reports; Dick Kusleika , Wiley 978-1119698722					Yes
Microsoft 365 – Includes Microsoft Excel (Provided by University)*, **					Yes
Microsoft 365 – Includes Microsoft Word (Provided by University)*					Yes
Microsoft 365 – Includes Microsoft PowerPoint (Provided by University)*					Yes

Notes:

*Mac users have the same access

**There are many functions and tools for Excel that are only with Microsoft 365

***You will see Python scripts and notations, this book will be used for follow on courses, disregard for this course.

Teaching Philosophy

The teaching philosophy is Tony holds is that everyone can learn from everyone if they decide to be open to learn and understanding. Tony views his role as the instructor as one that is to help uncover the hidden truths of the subject that he is currently teaching. Everyone brings their own Knowledge, Skill, Abilities, Experience, and Education (KSAEE) to the classroom and it will add value that all can learn.

Instructor's Biographical Information

I am currently employed by the Department of Defense in Portsmouth NH as a Project Manager for the Cost Engineering Division. I have over 25 years' experience in all phases of project management and data analytics, including quality control. I enjoy spending time with my family and playing video games with my children.

Course Policies

This course is intended to be interactive, as more participation will enhance student learning. Each week you will view lecture materials, read more about the lecture topic in your course text and then you will participate in the Discussion Forum and complete assignments where you will have a chance to apply what you've learned.

Each week, you will be expected to:

1. Review the week's learning objectives.
2. Complete all assigned readings.
3. Read and review all lecture materials for the week.
4. Participate fully in the Discussion Forum per the Rubric requirements.
5. Initial discussion posts are due by Thursday by 11:59 p.m.,
6. Responses two classmates are due by Sunday by 11:59 p.m.
7. Complete and submit all assignments by the due dates.
8. Sunday by 11:59pm

Unexcused late submissions will receive 10% deduction; no submissions will be accepted more than 7 days after the original due date. No extensions to the DB beyond Day 7 @ 11:59pm EST will be granted unless prior arrangements have been made with the instructor.

Note: The following may change at the instructor's discretion.

Professional Relationships and Ethics

The highest standards of ethics are expected at GSC. This includes maintaining confidentiality, respect for human rights and for the values of others, and a positive attitude. Peer relationships within this course are expected to be respectful, considerate, and supportive.

Extended Sickness and Personal Circumstances

Success in this course requires regular and consistent participation. If you find yourself in a situation in which this becomes a problem, contact the instructor immediately to discuss your ability to complete the course and your options.

Late Assignments

In professional fields, staff and other community members must adhere to strict timelines. Completion of coursework in a timely manner indicates the ability to meet professional requirements. Therefore, work that is late may affect your grade. If you do need to pass in an assignment late, contact me in advance. This cannot be a frequent occurrence.

Computer Problems and Saving Work

Computers malfunction: A computer breakdown or not having proper software is **NOT** a valid excuse for late work. You are responsible to have contingency plans and to back up all work frequently. It is recommended that you create and save backup files to other electronic storage devices for every piece of work in this class. OneDrive is provided from the university through your Microsoft 365 account, just use your school credentials to sign into the program.

Accommodations

If you are diagnosed with a disability, please make an appointment to meet with Student Disability Services (SDS) by contacting (603) 513-1140 or GSC.SDS@granite.edu. All students with the necessary supporting documentation will be provided appropriate accommodations as determined by SDS. It is entirely your responsibility to contact the SDS and concurrently supply faculty with your Faculty Notification Accommodation letter, which will inform faculty of the accommodations you are entitled to. You will only receive accommodations once your faculty member has received a Faculty Notification letter.

Course Methods

There are three elements to the methods of this course.

1. Discussions and announcements.
 - a. This is where we can communicate the different element in the class and what is being learned through the course material.
2. Text Books
 - a. The text books are the foundation to this course and how we are going to introduce the course material and topics for learning.
3. Participation
 - a. The participation is key to success in this course. This is through the assignments and communication with your classmates and the professor.

Description of Course Activities and Requirements

In the dashboard final project you will be using a set of data to construct a dashboard to provide needful information to make decisions. There are two elements to this project: (1) the dashboard and (2) the attached written report. The idea is to build an information system that will allow for decision makers to make the needed decision as quickly and accurately as possible.

The objective of this project is to develop and expand your knowledge about “Dashboards”. Dashboards are used extensively in digital enterprises. This project also provides you the opportunity to develop a more in-depth understanding of an organization’s business model, performance and strategy through the development and tracking of KPIs to better understand the organization’s performance.

Note all Rubrics will be in CANVAS for each assignment.

Grading Percentages

Category	Individual Point Value	Number of Occurrences	Total Point Value	Grade %
Discussion Post	100	6	600	33%
Written Assignments	100	5	500	28%
Final – Part A	100	1	100	39%
Final – Part B	100	1	100	
Final – Part C	100	1	100	
Final – Part D	400	1	400	
Total	800	15	1800	100%

Table 2 Grading Percentages

Granite State College Standard Grading Scale

To be in good academic standing, a student must maintain a cumulative GPA of at least 2.0, the minimum GPA required for graduation.

Grade	Percent	Grade Points	Level of Achievement
A	95-100	4.0	Excellent
A ⁻	90-94	3.67	
B ⁺	87-89	3.33	
B	84-86	3.0	Good
B ⁻	80-83	2.67	
C ⁺	77-79	2.33	
C	74-76	2.0	*Acceptable †Poor
C ⁻	70-73	1.67	
D ⁺	67-69	1.33	
D	64-66	1.00	Failure, no credit
D ⁻	60-63	0.67	
F	≤59	0	

Table 3 Grading Scale

**A grade of C or better is required to fulfill requirements in the major, minor, or general education courses at GSC. Please consult the GSC catalog for details.*

† A grade of C- or below generally does not transfer to other academic institutions.

Other Grades

1. **AF (Administrative Failure):** An AF grade will be assigned to the student who stops participating early in the course and has not completed coursework sufficient for the assessment of course outcomes or has stopped attending without formally withdrawing. An AF counts as an F grade in the calculation of grade point averages and may have implications under policies on degree progress and financial aid/student accounts.
2. **IC (Incomplete Coursework):** In extenuating circumstances an Incomplete (“IC”) grade may be assigned at the instructor’s discretion, and in accordance with the eligibility requirements set forth. Students may request an “IC” grade for more time to complete required coursework, which s/he was prevented from completing in a timely way due to non-academic reasons. Students will be asked for documentation to justify the request, though it is important to remember that such documentation does not automatically validate the request. Other circumstances may be taken into consideration, such as the pattern of performance and participation in the course, and any additional factors that the instructor deems relevant. To be eligible for an “IC” grade, students must be passing the course at the time of the request and must have completed at least 75 percent of the major coursework as specified in the syllabus.

- All “IC” grades require a written agreement specifying the remaining coursework required for completion and timeline for removal of the “IC” grade. This agreement must receive approval of the instructor and the Dean, or assigned designee, of the department or program. If the coursework is not completed within the prescribed timeframe, the “IC” will automatically change to an “F”.

Course Schedule & Topics

Note: The following may change at the instructor’s discretion.

<u>DATES</u>	<u>TOPIC</u>	<u>READING/VIEWING</u>	<u>ASSIGNMENT/ACTIVITIES</u>
Week 1 1/2/2023 – 1/8/2023	Welcome and Introduction	Review syllabus, DMBOK – Chapter 2	DB – Introductions DB – Ethics
Week 2 1/9/2023 – 1/15/2023	Define Data Mining	Read DMBOK Chapter 1 Read Shmueli Chapters 1 and 2	DB – Data Mining Written Assignment – Data Governance Data Functional Area
Week 3 1/16/2023 – 1/22/2023	Data Mining Refinement	Read Shmueli Chapter 14 Read Kusleika Chapter 1	Final Project Part A – Getting Data, Define KPI and Analysis Download Kusleika’s Book Companion Files
Week 4 1/23/2023 – 1/29/2023	Data Visualization	Read Kusleika Chapter 4	DB – What is a KPI and how are they used?
Week 5 1/30/2023 – 2/5/2023	Data Visualizations	Read Shmueli Chapter 3	Written Assignment – Data Governance Data Functional Area MS Excel Exercise – Bring in data and Visualizations (CSV to Excel) (NG)
Week 6 2/6/2023 – 2/12/2023	Data Analytic Tools Data Analysis	DMBOK Chapter 13, Sections 1-3	Writing Assignment - Different Analytic Tools
Week 7 2/13/2023 – 2/19/2023	Data Quality	DMBOK Chapter 13, Sections 4-7	DB – Importance of Data Quality Final Project Part B
Week 8 2/20/2023 – 2/26/2023	Data Governance and Infographics	Read Kusleika – Chapter 6	Written Assignment – Data Governance Data Functional Area
Week 9 2/27/2023 – 3/5/2023	Organizing Data for Dashboards	Read Kusleika – Chapter 3	Assignment Chapter 3 - Exercises
Week 10 3/6/2023 – 3/12/2023	Data Visualization	Read Kusleika – Chapter 7	DB – Importance of Proper Visualizations Final Project Part C
Week 11 3/13/2023 – 3/19/2023	Data Governance	Read Kusleika – Chapter 8	Written Assignment – Data Governance Data Functional Area
Week 12 3/20/2023 – 3/24/2023	Data Presentation	Read Kusleika – Chapter 9	Final Project Part D (Friday Course End)

Table 4 Course Schedule and Topics

GRANITE STATE COLLEGE SERVICES & POLICIES

Library Services

The College Librarian is available to help you plan your research strategy and cite your sources. Contact the College Librarian via e-mail (gsc.library@granite.edu) or by phone (603-513-1132). You have access to electronic books, journal articles, and more through the GSC Library (Discovery Service).

To access the GSC library go to the library homepage (<http://library.granite.edu>)

Academic Support Services

Online, 24-hour-a-day tutorial support as well as individual face-to-face tutoring options are available to students. Specific resources include: basic skills preparation in reading, writing and math support, study and research skills, time management tips and assistance in identifying online resources. Campus team members work closely with faculty and the academic administration to foster academic success. Please contact the Academic Support Coordinator at 603.513.1140 for additional details or visit www.granite.edu/advising-support.

Technical Assistance

For assistance with issues related to accessing the Learning Management System (LMS), Granite.edu email, WebRock, online courses or other technical issues related to any of the LMS tools, please visit the GSC IT Service Desk (<https://it.granite.edu>) for answers to the most frequently asked questions. The IT Service Desk page can be used to submit an online help request form or call 1-

Documented Disabilities / Americans with Disabilities Act

Granite State College Student Disability Services is committed to helping students become engaged, self-advocating, independent learners. We seek to promote accessible learning environments where students with disabilities experience equal access and full participation.

Granite State College, in accordance with the American Disabilities Act of 1990, and the Americans with Disabilities Amendments Act of 2008, and Section 504 of the Rehabilitation Act of 1973, will provide eligible students with a documented disability reasonable accommodation(s) in order to ensure equal access to college programs and activities.

To apply for accommodations, please contact GSC Student Disabilities Services (SDS) at (603) 513-1140, by email GSC.SDS@granite.edu, or download the application directly at www.granite.edu/disability-services.

Academic Honesty

Joining an academic community is a privilege with a long and honored history. All who join the community share in this history and, as in any community, all are charged with maintaining the integrity and standards of the academy. A primary function of this community is to stimulate scholarship that creates new knowledge or verifies existing knowledge. Academic dishonesty, therefore, seriously undermines the integrity of the academic community and interferes with this quest for knowledge. Such dishonesty hurts everyone. In particular, students who cheat diminish the value of their education and weaken their prospects for future academic successes. Our policies emphasize the seriousness of academic

dishonesty and give faculty some options for handling violations of these standards. Faculty and students have a joint responsibility to ensure the integrity of the academic experience.

Definitions

To ensure that students, faculty, and staff are operating within common guidelines, the following definitions of academic dishonesty are provided.

Plagiarism

Plagiarism is defined as the unattributed use of the ideas, evidence, or words of another person, or the conveying of the false impression that the arguments and writing in a paper are the student's own.

Plagiarism includes, but is not limited to, the following:

1. The acquisition by purchase or otherwise of a part or the whole of a piece of work which is represented as the student's own;
2. The representation of the ideas, data, or writing of another person as the student's own work, even though some wording, methods of citation, or arrangement of evidence, ideas, or arguments have been altered;
3. Concealment of the true sources of information, ideas, or argument in any piece of work. The Granite State College Library has a number of resources, including a workshop, to help students avoid plagiarism. Contact the library at gsc.library@granite.edu for more information.

Cheating

Cheating involves turning in work that is not one's own, as in giving, receiving, or using assistance not explicitly sanctioned by the instructor on exams, quizzes, projects, written assignments, and

other forms of assessment. Other forms of cheating include purchasing assignments, unauthorized collaboration, and turning in the same work for more than one course when the faculty members involved have not given their explicit permission to do so.

Policy

Plagiarism and cheating are unacceptable in any form. They are serious violations of academic honesty and will not be tolerated by the College. Students who engage in such activities will be subject to serious disciplinary action.

Academic Credit Hour

Granite State College adheres to the federal definition of credit hour. For each credit hour, the College requires, at a minimum, 37.5 hours of total instructional engagement. In general, about one-third of this work will be direct faculty instruction, and two-thirds will be comprised of other academic activities. Direct faculty instruction may include, but is not limited to, classroom instruction, e-learning, laboratory work, studio work, field work, clinicals, performance, internships, and practica. Other academic activities may include, but are not limited to, readings, reflections, essays, reports, inquiry, problem solving, rehearsal, collaborations, theses, and electronic interactions. Regardless of instructional delivery method and length of term, students are required to meet the course's learning outcomes and the minimum amount of total instructional engagement for each credit hour.

Turnitin Use Policy

Granite State College makes use of Turnitin.com, an online service that checks students' work for improper citation or potential plagiarism by comparing it against the works of others in the Turnitin

database as well as online sources. Students taking this course agree that all required work may be submitted to Turnitin and also agree to their terms of use. Works submitted to Turnitin will become source documents in their reference database solely for the purpose of detecting plagiarism of other students' work. Students retain copyright of their own work. Turnitin takes extreme measures to protect users' privacy, which can be reviewed in their Privacy Center

(https://help.turnitin.com/Privacy_and_Security/Privacy_and_Security.htm).

Responsible, Professional, and Effective Inter-personal Behavior and Communication

Enabling you to develop responsible, professional, and effective skills and habits of inter-personal behavior and communication is a primary goal of this course and your degree program at GSC. Throughout this course you will be expected to interact with all students, faculty, and staff within the GSC community with respect and in accord with applicable policies and laws. Your performance in this course will be assessed in part on your success in practicing these skills and habits and meeting these expectations. If you have any questions about these goals and expectations or their application in a specific circumstance, please ask your course instructor for guidance.

Freedom of speech

Freedom of speech, expression, and assembly are fundamental rights of all persons and are central to the mission and purposes of Granite State College. Our educational mission is founded on the bedrock principles of supporting a robust exchange of ideas and protecting academic freedom. The College recognizes that free inquiry and free expression are indispensable components in the examination of ideas. Students, faculty, and staff are free to express their views, individually or in organized groups, orally or in writing, on any topic, subject only to rules necessary to preserve the equal rights of others and the

functions of normal College operations. The College will not discriminate on the basis of the political, religious, philosophical, ideological, or academic viewpoint expressed by any person.

Code of Conduct

Membership in society implies minimal norms for civil behavior towards one another. It is expected that all members of the college community treat faculty, staff, and fellow students with respect. Students need to be knowledgeable of and comply with college policies. Students are accountable for their actions and the consequences of any behavior that is inconsistent with these values and expectations.

For a complete description of the Granite State College Code of Conduct Policy and Process, please refer to the student handbook: <https://www.granite.edu/current-students/academics/academicresources/student-handbooks/>. Students with conduct questions or those who would like to report an incident may contact the Director of Student Affairs/ Title IX Coordinator at 603-513-1328.

Title IX (20 U.S.C. § 1681) Statement

Title IX of the Educational Amendments of 1972, 20 U.S.C. section 1681 is a federal civil rights law prohibiting discrimination on the basis of sex in education programs and activities. This includes all forms of gender and sex based discrimination, sexual harassment, sexual violence, domestic violence, dating violence and stalking. Granite State College maintains a zero tolerance policy for sexual misconduct. For more information on Title IX, GSC's Sexual Misconduct Policy or to report an incident, please contact GSC.TitleIX@granite.edu or 603.513.1328.

Confidentiality and Mandatory Reporting

To ensure a safe and productive educational environment for all students, the college requires faculty members to report incidents of sexual violence and harassment shared by students to the college's [Title IX Coordinator](#). If a student wishes to speak to a confidential service provider who does not have this reporting responsibility, please visit www.granite.edu/sexual-misconduct for a complete listing of resources.

Weather & Emergency Cancellation Policy & Alerts

Decisions to close or delay opening of an Academic Center will be made NO LATER THAN 6:30 AM. Decisions to cancel evening classes will be made NO LATER THAN 3:00 PM. Closings will be announced on WMUR TV as well as its website www.wmur.com/closings (a link is also provided on the homepage of the GSC Website: www.granite.edu and New Hampshire Public Radio's website: <http://www.nhpr.org>). If a class is cancelled, students should contact their instructor for any make-up instructions.

Granite State College participates in the University of New Hampshire's emergency notification system, UNH Alert, which allows students, faculty, and staff to receive a message in the event of an emergency. These brief messages can be sent directly to your e-mail or cell phone, and will notify members of the college community about:

- Weather-related cancellations at our regional and academic campuses.
- Emergency situations that may affect students, faculty, and staff.
- Curtailed operations at the College resulting from an urgent circumstance.

Learn more at: <https://www.granite.edu/current-students/advising-support/safety-security/>

Institutional Assessment

Assessment is an ongoing process that enables the College to improve its programs, courses, and teaching methods. Institutional evaluation may be embedded in tests, exams and other measurements of student learning. As members of a learning community, students, faculty and staff will be expected to participate in the important process of assessment on occasion. Confidentiality of any data that identify participants is maintained.

Class Recording

Lectures or other class meetings for this course may be recorded by the College using media platforms. Such recordings may be available for educational use by other students enrolled in the class (including both for instruction and as a review tool), the course instructor(s), and other College officials who support course instruction. Your voice or image may be captured on the recordings, and by enrolling in this course you are consenting to such recording for these purposes.