



BUS4408: Social Analytics

FALL 2025

| | |
|------------------------|--|
| Instructor | Hugh Cairns |
| Email Address | hughcairns@cmail.carleton.ca |
| Class Times | 2:35-5:30 PM EDT, Wednesdays |
| Modality | In person |
| Office Hours | Available upon request |
| Office Location | |
| TA Name/Email | |

Pre-Requisites & Preclusions:

Prerequisites: Prerequisite(s): third year standing, [BUSI 1401](#) or BUSI 2400, and BUSI 2208, and STAT 2601 or STAT 2606. Restricted to students enrolled in B.Com, BIB, and the B.Econ Economic Data Science

Course Description/Instructor's Statement

Covers the process, tools and techniques necessary to acquire, clean and analyze text that has been generated on social platforms. Social network analysis, sentiment analysis, topic extraction, co-occurrence analysis.

Carleton Calendar Description (Find at <https://calendar.carleton.ca/undergrad/courses/BUSI/>)

Instructor's Description:

Tools for data analytics; analyzing unstructured data. Concepts of Natural Language Processing and Social Network Analysis will be explored in detail.

Course Learning Objectives:

1. Gain understanding of basic data management and integration techniques.
2. Mine unstructured text data for information extraction, sentiment, & topic extraction
3. Conduct Social Network Analysis to understand influence & communities.

Required/Optional Materials & Prices

Students are not required to purchase textbooks or other learning materials for this course. Students will be given access to the SAS Viya for Learners learning platform to complete assignments and will be given course notes for the material.

Grading Scheme

| | |
|--------------------------|-------------|
| Applied Assignments 3X10 | 30% |
| Midterm Quiz | 20% |
| Final Exam | 40% |
| Class participation | 10% |
| TOTAL | 100% |

Important Dates to Note

Please refer to the Course Schedule Below

University Academic Calendar: <https://calendar.carleton.ca/academicyear/>

Policies & Accommodations

<https://students.carleton.ca/course-outline/>

<https://carleton.ca/pmc/current-students/academic-accommodations/>



Stay updated with important notifications and announcements from Carleton University, by downloading the Carleton University App!

Assignments

Students will be given three assignments for completion before the beginning of class on the assigned date. Assignments must be submitted electronically before the start of the class on the dates indicated on the course outline. Failure to submit the assignments on time may result in the loss of marks. Students may work in groups to complete the assignments; however, each student must prepare and submit their own assignment.

Midterm

A short multiple-choice quiz will be delivered via Brightspace before the start of reading week.

Final Exam

A final exam will be given during the last class that will test the students' knowledge of key text mining and network analysis T

The minimum computing requirements for e-proctoring service are as follows:

- Hardware: Laptop
- OS: Windows 10, Mac OS 10.14, Linux Ubuntu 18.04
- Internet Browser: Google Chrome, Mozilla Firefox, Apple Safari, or Microsoft Edge

Note: Chromebooks, tablets (Android, iOS, Windows), and smartphones are not supported by CoMaS at this time. You must complete your exams using Windows-based or MacOS computers.

Late Assignments:

Assignments submitted past the due date will receive a penalty of 5% per day. Assignments that are not submitted after 10 days past the due date will receive a grade of 0. Exceptions to this include verifiable illness and emergencies, only when communicated directly to me within three (3) business day following the due date.

Deferred Examinations/Assignments:

Written permission granted by the instructor if you wish to defer a **Formal Final Exam**, you – the student – must reach out to the registrar's office with the proper documentation prior to the deadline (please refer to <https://carleton.ca/registrar/deferral/> for dates). Once the request has been put through, your instructor will be notified for their approval. Your final exam will be formally scheduled. If you miss the deadline for applying for a deferral, please reach out to your instructor

In the event that you are unable to write a midterm, test, or other scheduled assessments due to extenuating circumstances (such as a death in the family, illness, etc.), you must provide appropriate supporting documentation to your professor. Upon review, a deferred test may be offered. Please note that students who do not provide valid documentation or fail to offer a reasonable explanation for missing an assessment will receive a grade of 0% for that test.

The deferral will be held on Monday December 1 at 7:15 am.

Preparation and Participation:

Students are expected to attend all classes having completed the work assigned in the previous lesson(s).

Course Schedule

| Week | Date | Topic/Agenda | Pre-class Preparation |
|------|--------------|---|--|
| 1 | Sept 3 2025 | <ul style="list-style-type: none">• Introduction and review of course outlines, class norms and technical environment• Introduction to Social Analytics• Steps in Analytic Project• Overview of Data• Discussion of text mining | <ul style="list-style-type: none">• Lecture Notes |
| 2 | Sept 10 2025 | <ul style="list-style-type: none">• Data Manipulation Overview• Introduction to SAS Studio• Data Integration Techniques• Procedures relevant when working with text. | <ul style="list-style-type: none">• Lecture Notes |
| 3 | Sept 17 2025 | <ul style="list-style-type: none">• Text Analytics I• SAS Visual Text Analytics (VTA)• Corpus Review• Text Filter• Text Parsing | <ul style="list-style-type: none">• Lecture Notes• In class SAS Exercises 1.1 & 1.2 |

| | | | |
|----|--------------------|--|---|
| 4 | Sept 24 2025 | <ul style="list-style-type: none"> • Text Analytics II • SAS Visual Text Analytics (VTA) • Concept Definition/Extraction Assignment 1 Distributed | <ul style="list-style-type: none"> • Lecture Notes • In class SAS Exercises 2.1, 2.2, 2.3 |
| 5 | Oct 1 2025 | <ul style="list-style-type: none"> • Text Analytics II • Categorization • Taxonomy Creation • Scoring New Data | <ul style="list-style-type: none"> • Lecture Notes |
| 6 | Oct 8 2025 | <ul style="list-style-type: none"> • NLP Overview • SAS Visual Text Analytics (VTA) • Custom Concepts • Introduction to LITI Assignment 2 Distributed | <ul style="list-style-type: none"> • Lecture Notes • 4.3 • Assignment 1 Due |
| 7 | Oct 15 2025 | <ul style="list-style-type: none"> • Midterm Quiz to be completed online NO CLASS | |
| | Oct 22 2025 | No Classes | NA |
| 8 | Oct 29 2025 | <ul style="list-style-type: none"> • SNA I • Overview to Social Network Analysis • Theoretical Origins | <ul style="list-style-type: none"> • Lecture Notes • Assignment 2 Due |
| 9 | Nov 5 2025 | <ul style="list-style-type: none"> • SNA II • Visualization of Networks • Assignment 3 Distributed | <ul style="list-style-type: none"> • Lecture Notes • |
| 10 | Nov12 2025 | <ul style="list-style-type: none"> • SNA III • Probabilistic Methods • Descriptive Statistics for Social Networks | <ul style="list-style-type: none"> • Lecture Notes • |
| 10 | Nov 19 2025 | <ul style="list-style-type: none"> • SNA III • Levels of Analysis for SNA | <ul style="list-style-type: none"> • Lecture Notes Assignment 3 Due |
| 11 | Nov 26 2025 | <ul style="list-style-type: none"> • Putting it all together. • SNA+ Text Analytics | <ul style="list-style-type: none"> • Lecture Notes |
| 12 | Dec 3 2025 | <ul style="list-style-type: none"> • Final Exam | <ul style="list-style-type: none"> • NA |

Contribution to Learning Goals of the Program ([BCom](#), [BIB](#)):

| Program Learning Goal | Competencies Not Covered | Competencies Introduced (only) | Competencies Taught But Not Assessed | Competencies Taught and Assessed |
|---|--------------------------|--------------------------------|--------------------------------------|----------------------------------|
| BC1 Knowledge <i>Graduates will be skilled in applying foundational business knowledge to appropriate business contexts.</i> | | | ✓ | |
| BC2 Collaboration <i>Graduates will be collaborative and effective contributors in team environments that respect the experience, expertise and interest of all members.</i> | | | ✓ | |
| BC3 Critical Thinking <i>Graduates will be discerning critical thinkers, able to discuss different viewpoints, challenge biases and assumptions, and draw conclusions based on analysis and evaluation.</i> | | | | ✓ |
| BC4 Communication <i>Graduates will be effective and persuasive in their communications.</i> | ✓ | | | |
| BI5 Global Awareness (BIB ONLY) <i>Graduates will be globally-minded.</i> | ✓ | | | |

ADDITIONAL INFORMATION

Course Sharing Websites

Materials created for this course (including presentations and posted notes, labs, case studies, assignments, and exams) remain the intellectual property of the author(s). They are intended for personal use and may not be reproduced or redistributed without prior written consent of the author(s).

Required calculator in BUSI course examinations.

If you are purchasing a calculator, we recommend any one of the following options: Texas Instruments BA II Plus (including Pro Model), Hewlett Packard HP 12C (including Platinum model), Staples Financial Calculator, Sharp EL-738C & Hewlett Packard HP 10bII

Group work

The Sprott School of Business encourages group assignments in the school for several reasons. They provide you with opportunities to develop and enhance interpersonal, communication, leadership, followership, and other group skills. Group assignments are also good for learning integrative skills for putting together a complex task. Your professor may assign one or more group tasks/assignments/projects in this course. Before embarking on a specific problem as a group, it is your responsibility to ensure that the problem is meant to be a group assignment and not an individual one.

Grading

In accordance with the Carleton University Undergraduate Calendar (p 34), the letter grades assigned in this course will have the following percentage equivalents:

| | | | |
|-------------|------------|------------|------------|
| A+ = 90-100 | B+ = 77-79 | C+ = 67-69 | D+ = 57-59 |
|-------------|------------|------------|------------|

| | | | |
|-----------|-----------|-----------|-----------|
| A = 85-89 | B = 73-76 | C = 63-66 | D = 53-56 |
|-----------|-----------|-----------|-----------|

| | | | |
|-------------|-------------|-------------|-------------|
| A - = 80-84 | B - = 70-72 | C - = 60-62 | D - = 50-52 |
|-------------|-------------|-------------|-------------|

F = Below 50

Grades entered by Registrar:

WDN = Withdrawn from the course

DEF = Deferred

Academic Regulations

University rules regarding registration, withdrawal, appealing marks, and most anything else you might need to know can be found on the university's website, here:

<http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/>

Requests for Academic Accommodation

Carleton is committed to providing academic accessibility for all individuals. You may need special arrangements to meet your academic obligations during the term. The accommodation request processes, including information about the *Academic Consideration Policy for Students in Medical and Other Extenuating Circumstances*, are outlined on the Academic Accommodations website (students.carleton.ca/course-outline).

You may need special arrangements to meet your academic obligations during the term. For an accommodation request, the processes are as follows:

Pregnancy Accommodation

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf

Religious obligation

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf

Academic Accommodations for Students with Disabilities

If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. carleton.ca/pmc

Survivors of Sexual Violence

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and its survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: carleton.ca/sexual-violence-support

Accommodation for Student Activities

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

For more information on academic accommodation, please contact the departmental administrator or visit: students.carleton.ca/course-outline

Academic Integrity

Violations of academic integrity are a serious academic offence. Violations of academic integrity – presenting another's ideas, arguments, words or images as your own, using unauthorized material, misrepresentation, fabricating or misrepresenting research data, unauthorized co-operation or collaboration or completing work for another student – weaken the quality of the degree and will not be tolerated.

Process: If an alleged violation occurs, all relevant documentation will be forwarded to the Dean. If the allegation proves true, the penalties may include; a grade of Failure on the submitted work and/or course; academic probation; a refusal of permission to continue or to register in a specific degree program; suspension from full-time studies; suspension from all studies at Carleton; expulsion from Carleton, amongst others. **For a first offence, at a minimum, the penalty assigned will normally be a zero on the submitted work and at least a minimum full grade reduction of the final course grade. For a second offence, at a minimum, the penalty assigned will normally lead to a suspension from studies.**

Students are expected to familiarize themselves with and follow the Carleton University Student Academic Integrity Policy which is available, along with resources for compliance at: <https://carleton.ca/registrar/academic-integrity/>.

Sprott Student Services

The Sprott Undergraduate Student Services Office offers program advising and overall student success support. Our team is available to discuss your academic goals and your program progression plans. We can also work with you to develop strategies for success, including study skills for Business. If you experience any difficulty this term or if you would like to access support, please contact our team at bcom@sprott.carleton.ca or at bib@sprott.carleton.ca.

Centre for Student Academic Support

The Centre for Student Academic Support (CSAS) is a centralized collection of learning support services designed to help students achieve their goals and improve their learning both inside and outside the classroom. CSAS offers academic assistance with course content, academic writing and skills development. Visit CSAS on the 4th floor of MacOdrum Library or online at: carleton.ca/csas.

Important Information:

- Students must always retain a copy of all work that is submitted.
 - All final grades are subject to the Dean's approval.
 - For us to respond to your emails, we need to see your full name, CU ID, and the email must be written from your valid CARLETON address. Therefore, in order to respond to your inquiries, please send all email from your Carleton CMail account. If you do not have or have yet to activate this account, you may wish to do so by visiting <https://carleton.ca/its/get-started/new-students-2/>
-