



BUSI 4408 A: Social Analytics

FALL 2026

Instructor	Migao Wu, PhD
Email Address	migaowu@cunet.carleton.ca
Class Times	Section A: Wednesdays 2:35 pm – 5:25 pm
Modality	* Lectures will be <i>in person</i> , not suitable for online students – the sessions include experiential learning in-class exercises.
Office Hours	TBA
Office Location	7027 Nicol Building
TA Name/Email	TBA

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 processes, tools, and techniques required to acquire, clean, and analyze text generated on social media platforms, including social network analysis, sentiment analysis, topic extraction, and co-occurrence analysis.

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

Instructor's Description:

In today's digitally interconnected world, understanding and harnessing social data is increasingly important for businesses. Because most data is unstructured and growing rapidly, this course equips students with the tools and analytical skills needed to extract meaningful insights from textual content and social networks. Students will explore techniques for acquiring, cleaning, and analyzing unstructured data generated on social platforms, with particular emphasis on Natural Language Processing and Social Network Analysis. The course will also introduce emerging tools, techniques, and methodologies in social analytics.

Course Learning Objectives:

Upon successful completion of this course, students will be able to:

1. Explain key text analytics and social network analysis concepts and their applications in business contexts.
2. Apply fundamental data management and integration techniques to acquire, clean, manipulate, and prepare unstructured data for analysis.
3. Analyze unstructured text using information extraction, sentiment analysis, topic modeling, cluster analysis, and text classification techniques.
4. Conduct social network analysis to identify influential actors, relationships, and communities.

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5. Interpret insights from textual content and social network structures to support informed business decision-making.
 6. Describe and evaluate emerging trends, tools, and techniques in social analytics.

Drop Course Policy

The deadline for academic withdrawal follows the dates prescribed by Carleton University: <https://calendar.carleton.ca/academicyear/>

The deadline to drop this course with full fee adjustment is September 22, 2026. The last day to withdraw from full fall courses is November, 15th, 2026.

Required/Optional Materials & Prices

- Required textbook: ***Graph analysis and visualization: discovering business opportunity in linked data, 1st edition***
 - Authors: Brath, R., & Jonker, D.
 - Publisher: Wiley; Year: 2015
 - ISBN: 9781119183662
 - Price: eBook available via Carleton Library; **Free**
 - Referred as SNA in course schedule
- Required textbook: ***Practical Text Analytics. Interpreting text and unstructured data for business intelligence, 1st edition***
 - Authors: Steven Struhl.
 - Publisher: Kogan Page; Year: 2015
 - ISBN: 9780749479374
 - Price: ~\$78.29; Hard copy available via Carleton Library
 - Referred as TA in course schedule
- Optional book: ***Mastering Gephi Network Visualization. 1st edition***
 - Authors: Cherven, K
 - Publisher: Packt Publishing; Year: 2025
 - ISBN: 9781783987351
 - Price: eBook available via Carleton Library; **Free**
- Additional reading material may be made available on Brightspace. You are also expected to read the assigned material before the indicated lecture.

Textbook (s) available at the Campus Store in Nideyinàn or order online for pick up:
<https://carletonshop.ca/Course/term>

- **Software**
 - Gephi (Available from: <https://gephi.org/>; *Compatible with Windows and MacOS; Cost: Free*)
 - Orange (Available from: <https://orangedatamining.com/>; *Runs on both Windows and MacOS; Cost: Free*)
 - MS Excel
 - **Device**
 - *Students need to bring their own laptops for in-class exercises.*
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Grading Scheme

Your final grade will be composed of the following:

- **In-class Exercises (8 x 2.5%) – 20%**
- **Three Individual Assignments – 35%**
 - Assignment #1 (10%)
 - Assignment #2 (10%)
 - Assignment #3 (15%)
- **Group Project – 40%**
 - Project proposal (5%)
 - Project presentation (10%)
 - Project report (25%)
- **Feedback to other group presentations – 5%**

Important Dates to Note

Assignment #1	October 11 th , 2026 by 11:59 PM
Assignment #2	October 25 th , 2026 by 11:59 PM
Assignment #3	November 22 nd , 2026 by 11:59 PM
Group Project Proposal	November 13 th , 2026 by 11:59 PM
Group Project Report	December 11 th , 2026 by 11:59 PM

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

There is a Brightspace site for this course. All expected deliverables for this course are expected to be submitted through the Brightspace site. You will find your feedback there as well. It is important that you **visit the site regularly** to stay on top of the course. When communicating with the instructor, please use your Carleton University email and include the course number in your message.

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!



Methods of Evaluation

In-class exercises (20%)

In many classes, approximately one hour will be dedicated to completing a short in-class task. You will be expected to finish and submit the assigned work by the end of the session. Please bring a laptop to each class to complete these activities.

Individual assignments (35%)

Throughout the term, students will complete three individual assignments focused on social network analysis and text analytics. These assignments will require students to analyze common business datasets and develop solutions to real-world business problems. Their purpose is to help students connect data analysis skills with practical business applications.

- *Late submission will incur a penalty of 10% per day in cases without medical certificates.* Assignments that are not submitted after 10 days past the due date will receive a grade of 0 [zero]. Exceptions to this include verifiable illness and emergencies, only when communicated directly to me within three (3) business days following the due date.

Group project (40%)

Students will form groups of **four to six** members and apply the text analytics skills learned in the course to a real-world dataset. The purpose of this project is to demonstrate how text analytics can be used to address business-related questions and create value for individuals, organizations, or society.

Each group will select an area of interest, develop relevant research questions, obtain an existing online dataset or collect its own data, clean and analyze the data, and present meaningful findings. All project topics are subject to the instructor's approval. The project consists of the following three components:

- **Project proposal:** Each group will submit a formal two-page proposal outlining its chosen field and questions of interest, briefly describing the proposed dataset, and explaining how text analytics techniques will be used to address the questions. The proposal is intended to guide the group toward a successful project and will be graded out of **five marks** based on completeness, ambition, feasibility, and clarity.
- **Project presentation:** Each group will present its findings during the final class of the semester. Presentations should be 10 minutes long, followed by a two-minute question-and-answer session.
- **Project report:** Each group will submit a professionally prepared report describing the selected field, research questions, datasets, analytical process, findings, and practical implications. The report must also provide a detailed discussion of the project's limitations and opportunities for future improvement. It must not exceed 20 single-spaced pages, including charts, graphs, tables, and appendices but excluding references.
- **Note:** Peer evaluations will be used for all group work. Additional details will be provided later in the semester.

Feedback to other groups' presentations (5%)

You will evaluate and provide rated feedback on other groups' presentations using the specified criteria. The feedback format will be provided later in the semester. The instructor will incorporate a portion of these peer evaluations into each group's presentation grade.

Preparation and Participation:

To make the most of this course, students are expected to come to each class well-prepared. Please ensure that you have completed the required readings before attending class, as this will enhance your understanding of the material and allow you to actively engage in class discussions. Your participation is strongly encouraged, as sharing perspectives and asking questions are key to deepening your learning. Regular attendance is essential—this course is delivered in person, and your consistent presence will contribute not only to your success but also to a richer learning environment for everyone.

Course Schedule *

Week #	Week of	Topic
1	Sep., 07	<i>No class</i>
2	Sep., 14	<u>Welcome & Course Overview</u>
3	Sep., 21	<u>Social Network Analysis I / ICE 1</u> <i>Readings: SNA Ch. 1 & 2</i>
4	Sep., 28	<u>Social Network Analysis II / ICE 2; Group formation</u> <i>Readings: SNA Ch. 3, 4, & 5</i>
5	Oct., 05	<u>Social Network Analysis III / ICE 3</u> <i>Readings: SNA Ch. 9 & 11</i> Case #1 <u>Assignment #1 due on October 11th, 2026 by 11:59 PM</u>
6	Oct., 12	<u>Text Analytics I: Explore and manipulate text / ICE 4</u> <i>Readings: TA Ch. 1 & 2</i>
7	Oct., 19	<u>Text Analytics II: Topic extraction, cluster analysis / ICE 5</u> <i>Readings: TA Ch. 3 & 4</i> <u>Assignment #2 due on October 25th, 2026 by 11:59 PM</u>
	Oct., 26	<i>Fall Break – no classes</i>
8	Nov., 02	<u>Text Analytics III: Sentiment analysis, dictionary / ICE 6</u> <i>Readings: TA Ch. 5</i> Case #2
9	Nov., 09	<u>Text Analytics IV: Analyzing text using machine learning / ICE 7</u> <i>Readings: TA Ch. 6 & 7</i> <u>Group Project Proposal due on November 13th, 2026 by 11:59 PM</u>
10	Nov., 16	<u>Text Analytics V: A real-world case / ICE 8</u>

		Case #3 Assignment #3 due on <u>November 22nd, 2026 by 11:59 PM</u>
11	Nov., 23	<u>Emerging trends and techniques in social analytics & Project Discussion</u>
12	Nov., 30	<u>Course Wrap-Up</u>
13	Dec., 07	<u>Group Presentation</u> Group project report due on <u>December 11th, 2026 by 11:59 PM</u>

* Note: Although the schedule outlined above is expected to be followed, unforeseen circumstances may require adjustments during the semester.

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

Use of AI Tools in Coursework

Students are permitted to use AI tools (e.g., ChatGPT, DeepSeek, Copilot) to support their work on course deliverables. However, any use of AI must be disclosed clearly and transparently. For each assignment or presentation where AI tools are used, students must include a brief statement specifying which tools were used and how they were applied (e.g., idea generation, data analysis assistance). Failure to disclose the use of AI tools may be considered a breach of academic integrity. Students remain responsible for ensuring the accuracy, originality, and academic quality of all submitted work.

Course Sharing Websites

Materials created for this course (including presentations and posted , 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/>
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