



BUSI 4410A: Responsible Business Analytics

Winter 2026

Instructor	Gloria Karina Sánchez-Cuevas, MA, MBA, Ph.D. (Candidate)
Email Address	gloriasanchez@cunet.carleton.ca
Class Times	Thursday, 2:35 pm – 5:25pm
Modality	In-person
Office Hours	By appointment only ¹
Office Location	N/ A
TA Name/Email	N/ A

Pre-Requisites & Preclusions:

Prerequisites: Fourth-year standing and BUSI 2401.

Preclusions: N/A

Course Description/Instructor's Statement

Carleton Calendar Description

Values in Technology, Data Governance, Data Anonymization and its limits, Ethical issues in HR and Talent Analytics, Disinformation, Misinformation, and Fake News, Bias & Fairness, Privacy, consent, and surveillance, Algorithm Colonialism, Legal Frameworks, The Nerd revolution.

Instructor's Description:

Data and analytics are now woven into every dimension of business decision-making, shaping how organizations target customers, manage employees, allocate resources, design digital services, and govern their operations. As analytical systems grow more complex and more deeply embedded in daily life, their ethical, social, and environmental impacts have become impossible to ignore. This course equips students with the critical tools, conceptual frameworks, and analytical skills needed to understand not only how data-driven systems work, but how they can be designed, governed, and deployed responsibly in real organizational contexts. The course invites students to move beyond the technical rhetoric around "AI ethics" and "Data Governance" and instead examine the concrete decisions, trade-offs, and power dynamics that shape the design of contemporary analytics systems.

¹ I am available to meet with you in person or online for office hours. However, I do not have a fixed schedule for these meetings. If you need to ask me anything or want to book a consultation, please send me an email. I will try to get back to you within 24-48 hours on weekdays and within 48 hours on weekends. Please be aware that I usually use Brightspace to make class announcements, so make sure that you regularly check your Carleton email or the Brightspace portal to keep up with any updates. The office hours are intended to help you understand concepts and answer any questions that cannot be answered easily by consulting the course outline or by sending an email. Please do not use your personal email and only use your Carleton email account.

A core aim of the course is to expose students to the ethical tensions that arise when business objectives meet technical possibilities. Students explore how behavioral analytics, dark patterns, and persuasive design techniques can manipulate consumers; how misinformation ecosystems exploit data-driven optimization; how global AI infrastructures produce uneven benefits and harms; and how the carbon, water, and material footprint of AI challenges common narratives of “clean” or “green” technology. These discussions encourage students to consider responsibility not simply as compliance, but as stewardship—an ongoing commitment to designing systems that align with societal well-being, fairness, and sustainability.

Over twelve weeks, students explore key concepts in ethics, values-in-technology, fairness, privacy, governance, human–computer interaction, environmental issues, and global justice. Each module illustrates how ethical challenges develop and interrelate throughout the data lifecycle. The course design-centered on active learning focuses on hands-on experiences, engaging discussions, and honing practical analytic judgment. Assessments are structured to encourage students to not only understand theories but also apply, critique, and defend them. Additionally, the course features team exercises where students simulate organizational decision-making and develop actionable recommendations based on regulatory and ethical frameworks.

By the end of the term, students will be equipped to engage critically and constructively with data and analytics, ensuring they are used responsibly, transparently, and in service of the public good. This applies whether they pursue careers in analytics, consulting, marketing, HR, operations, or policy.

Course Learning Objectives:

1. Analyze the ethical, organizational, and societal implications of data-driven systems by identifying value tensions, sources of bias, and governance challenges across the analytics lifecycle.
2. Evaluate the fairness, transparency, and accountability of business analytics systems using established ethical frameworks, relevant legal requirements, and organizational best practices, making evidence-based judgments about potential harms and trade-offs.
3. Create clear, coherent, and defensible written analyzes, such as case memos, policy briefs, and audit reports, that integrate ethical reasoning, regulatory considerations, and domain-specific concepts to address real-world ethical dilemmas in business analytics.
4. Evaluate the environmental, cultural, and geopolitical impacts of data and AI infrastructures, including issues of sustainability, power asymmetries, and algorithmic colonialism, and articulate informed recommendations for responsible organizational action.
5. Create collaborative, practice-oriented solutions, such as fairness audits, governance policies, and debate arguments, that apply course theories to complex business contexts and demonstrate strong analytical, communicative, and professional decision-making skills.

Required/Optional Materials & Prices

Students are not required to purchase textbooks or other learning materials for this course.

Grading Scheme	
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Class Participation & Discussion	15%
Ethical Case Memo (x2)	20%
Mini Quizzes (x5)	10%
Structured Debate (x2)	20%
Data Governance Policy Brief (team)	15%
Fairness Audit Project (team)	20%
TOTAL	100%

Grading Components Description

1. Class Participation & Discussion: 15% (Individual, Ongoing)

Students will be evaluated on their active and consistent participation in class discussions throughout the term. The grade reflects both the quality and quantity of their contributions, with an emphasis on thoughtful engagement that advances collective learning. Each time a student makes a meaningful contribution, they will receive one or more participation tokens, which are awarded electronically. Tokens are tracked through a QR-code system assigned to each student, with full instructions provided during Week 1. At the end of the term, the threshold for earning the full 15% will be determined by the distribution of tokens earned across the class to ensure fairness and proportionality.

2. Ethical Case Memos: 20% (Individual)

Students will complete two Ethical Case Memos over the term, each worth 10%, applying course concepts and ethical frameworks to real analytics dilemmas. One memo will be written in class, where students may use approved AI tools solely during the class period to support analysis and structure. The second memo will be a take-home assignment, but all writing must be the student's own work; AI-generated text is strictly prohibited to preserve academic integrity. Both memos require students to demonstrate critical reasoning, ethical judgment, and clear communication by analyzing an assigned scenario using concepts introduced in class.

3. Mini Quizzes: 10% (Individual, In-Class)

Students will complete five short quizzes during the term, each scheduled on the dates provided in the course outline and worth 2% of the final grade. These quizzes aim to evaluate reading comprehension, recall of essential concepts, and the capacity to apply ethical definitions and frameworks to practical scenarios. Each quiz includes a combination of multiple-choice or short-answer questions, along with one brief open-response item requiring critical interpretation or application. Quizzes are completed in class and are submitted electronically through Brightspace at the end of the quiz period. They serve as checkpoints to support consistent engagement with course material and cannot be made up without documented academic accommodation.

4. Structured Debates: 20% (Teams + Individual):

Students will participate in two structured debates during the term, each worth 10%, with grades split across a team component (15% total) and an individual contribution component (5% total).

On the day of each debate, teams will be assigned by the instructor and provided with instructions outlining the debate structure, expectations, and position assignments. During the debates, teams will argue normative positions and ethical trade-offs grounded in the week's readings and relevant ethical, policy, and design frameworks. These activities are designed to strengthen students' analytical reasoning, oral communication, and ability to defend positions under time constraints. Participation in the debates provides an opportunity for students to engage deeply with course material while practicing structured, respectful, and evidence-based argumentation.

5. Data Governance Policy Brief: 15% (Team, In-Class)

In this team assignment, students will develop a concise, policy-oriented data governance brief for an organization, drawing directly on the Week 6 session, assigned readings, and regulatory expectations. The activity is completed entirely in class, with students forming their teams at the start of the session to promote fair collaboration. The brief requires students to articulate governance models, data quality considerations, legal and regulatory frameworks, and organizational accountability mechanisms in a clear and professional format. This assignment emphasizes practical policy writing, critical thinking, and the ability to translate ethical and legal concepts into actionable organizational recommendations. No in-class presentation is required; teams will submit the written brief at the end of the class session via Brightspace.

6. Fairness Audit Project Report and Presentation: 20% (Team)

In this major team assignment, students will conduct a fairness audit of a real or hypothetical analytics system, applying the concepts, definitions, and frameworks introduced in Weeks 4–6. Teams will evaluate sources of bias, assess fairness metrics, examine potential harms to stakeholders, and propose mitigation strategies grounded in ethical and organizational best practices. The project culminates in a written report and a short in-class presentation, where teams communicate their findings in a clear, structured, and professional manner. This assignment is designed to integrate analytic reasoning with ethical judgment, highlighting the practical challenges of conducting fairness evaluations in business contexts. Students may choose their own teams, and detailed instructions will be provided in class; presentations take place in Week 12, and the final written report is due on April 6.

COURSE SCHEDULE ¹

Week	Topic	Date	Agenda	Pre-class Prep	Deliverable/Deadline
1	Introduction to Responsible Business Analytics	Jan 8	<ul style="list-style-type: none"> Class intro Responsibility and analytics Ethical challenges across the analytics lifecycle 	Madanchian, M., & Taherdoost, H. (2025). Ethical theories, governance models, and strategic frameworks for responsible AI adoption and organizational success. <i>Frontiers in Artificial Intelligence</i> , 8, Article 1619029.	n/a
2	Values in Technology & Ethical Foundations for Analytics	Jan 15	<ul style="list-style-type: none"> Intro to business ethics, technology ethics, value-sensitive design Value tensions: accuracy vs. fairness, efficiency vs. autonomy Frameworks: VSD, RRI, sociotechnical systems 	Umbrello, S. & van de Poel, I. (2021). Mapping value sensitive design onto AI for social good principles. <i>AI & Society</i> , 36, 567–580.	Mini-Quiz 1
3	Privacy, Consent & Surveillance Capitalism	Jan 22	<ul style="list-style-type: none"> Limits of consent in digital systems Privacy paradox, surveillance capitalism Platform tracking, cookies, cross-device profiling Regulatory expectations: lawful bases, privacy by design 	<ul style="list-style-type: none"> Obar, Jonathan A. (2020). Sunlight alone is not a disinfectant: Consent and the futility of opening Big Data black boxes (without assistance). <i>Big Data & Society</i>, 7(1), 1–5. Shepherd, Tamara (2024). The Canadian Clearview AI Investigation as a Call for Digital Policy Literacy. <i>Surveillance & Society</i>, 22(2), 1–9. 	Mini-Quiz 2
4	Bias, Fairness & Discrimination in Analytics	Jan 29	<ul style="list-style-type: none"> Types of bias: measurement, historical, algorithmic, societal Fairness definitions in ML (group vs individual fairness) Audits, mitigation strategies, fairness trade-offs 	<ul style="list-style-type: none"> Fazelpour, S., & Danks, D. (2021). Algorithmic bias: Senses, sources, solutions. <i>Philosophy Compass</i>, 16(8), e12760. Chouldechova, A., & Roth, A. (2020). A snapshot of the frontiers of fairness in machine learning. <i>Communications of the ACM</i>, 63(5), 82–89. 	Mini-Quiz 3
5	Data Anonymization & Its Limits	Feb 5	<ul style="list-style-type: none"> Re-identification risks Differential privacy, k-anonymity, synthetic data Ethical use of de-identified data in marketing, finance, healthcare 	<ul style="list-style-type: none"> Piasentin, R. C., & Shaw, K. (2022). Risks of Anonymized and Aggregated Data. <i>Canadian Privacy Law Review</i>, 19(3), 53–59. Fitzgerald, A. (2024). Why Synthetic Data Can Never Be Ethical: A Lesson from Media Ethics. <i>Surveillance & Society</i>, 22(4), 477–482. 	Structured Debate 1 (in-class)
6	Responsible Data Governance, Data Quality, and Legal Frameworks for Business Analytics	Feb 12	<ul style="list-style-type: none"> Data governance: centralized vs. decentralized Data quality, bias in datasets, metadata, documentation 	<ul style="list-style-type: none"> Volz et al. (2025). From data jungle to data governance in digital ecosystems: Empirical evidence from a multiple holistic case study. <i>Journal of Business Research</i>, 201, 115747. Brandusescu & Sieber (2025). Missed opportunities in AI regulation: lessons from 	Data Governance Policy Brief (in class)

¹ Please note that the schedule may change during the term, and students will receive advanced notice in such cases.

			<ul style="list-style-type: none"> Organizational accountability: Corporate responsibility structures (risk committees, AI councils) Legal & regulatory frameworks for analytics In-class work on the Data Governance Policy Brief (team assignment) 	Canada's AI and Data Act. Data & Policy, 7, e40.	
		Feb 19	No class, Fall break		
7	The “Nerd Revolution:” Analytics, Power & Organizational Change	Feb 26	<ul style="list-style-type: none"> The rise of analytics professionals as organizational power brokers “Moneyball for business”: data-driven decision cultures Techno-masculinity, culture, and representation in analytics Ethics of quantification and overreliance on models 	<ul style="list-style-type: none"> Young et al. (2023). Mind the gender gap: Inequalities in the emergent professions of artificial intelligence (AI) and data science. <i>New Technology, Work and Employment</i>, 38(3), 391–414. OR <ul style="list-style-type: none"> Papagiannidis et al. (2023). Uncovering the dark side of AI-based decision-making: A case study in a B2B context. <i>Industrial Marketing Management</i>, 115, 253–265. 	Ethical Case Memo 1 (in-class)
8	Disinformation, Misinformation & Manipulative Analytics	Mar 5	<ul style="list-style-type: none"> The business model of misinformation Micro-targeting, emotionally manipulative analytics, persuasive patterns Generative AI and the acceleration of disinformation 	Faraoni, S. (2023). Persuasive Technology and computational manipulation: hypenudging out of mental self-determination. <i>Frontiers in Artificial Intelligence</i> , 6, Article 1216340.	Mini-Quiz 4
9	Algorithmic Colonialism & Global Power Dynamics	Mar 12	<ul style="list-style-type: none"> Data colonialism Extractive AI, uneven benefits, infrastructure dominance Global South perspectives on AI ethics Organizational obligations when deploying global analytics systems 	<ul style="list-style-type: none"> Couldry, N., & Mejias, U. (2020). The Costs of Connection: How Data Is Colonizing Human Life and Appropriating It for Capitalism. (select Chapter) Mohamed, S., Png, M.-T., & Isaac, W. (2020). Decolonial AI: Decolonial Theory as Sociotechnical Foresight in Artificial Intelligence. <i>Philosophy & Technology</i>, 33(4), 659–684. 	Ethical Case Memo 2 (take-home due this day, topic on week 7)
10	Dark Patterns, Behavioural Analytics & Manipulative Design	Mar 19	<ul style="list-style-type: none"> Dark Patterns in UX Behavioral Analytics & Persuasive Technologies Addictive Design & Attention Engineering Manipulative Analytics in E-Commerce Policy & Governance Implications 	Kitkowska, A. (2023). The Hows and Whys of Dark Patterns: Categorizations and Privacy. In A. Stöver, K. Marky, & N. Gerber (Eds.), <i>Human Factors in Privacy Research</i> (p. 173). Springer International Publishing AG.	Structured Debate 2 (in-class)

11	Environmental & Sustainability Impacts of Data & AI Systems	Mar 26	<ul style="list-style-type: none"> ▪ Carbon Footprint of Analytics & AI ▪ E-Waste & Hardware Supply Chains ▪ Water Consumption & Heat Waste ▪ “Greenwashing” in AI & Data Analytics ▪ Policymaking & Corporate Responsibility ▪ Ethical Tensions 	Pasek, A., Bronson, K. Centivany, A., Doggett, O., Hilstob, K., Kinder, J., Kish, Z., et.al (2025). Challenges and Opportunities for a Made-In-Canada Approach to AI.” AI + Society Initiative, University of Ottawa.	Mini-Quiz 5
12	Team Presentations: Fairness and Audit Project Report	Apr 2			<ul style="list-style-type: none"> ▪ Slide submission March 29 ▪ Final Report due April 6

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!

Preparation and Participation:

Success in this course depends on consistent preparation and active participation. Students are expected to attend every class, complete the assigned readings beforehand, and come ready to engage in discussions, case analyses, and in-class activities. High-quality participation includes thoughtful comments, relevant questions, and clear connections to course concepts, and is tracked through electronic participation tokens awarded during class. Tokens may be lost for lateness, early departures, unpreparedness, disengagement, or disrespectful behaviour. Reading and attendance are essential: they directly affect your ability to participate meaningfully, succeed on quizzes and memos, and contribute effectively to teamwork.

Late Assignments:

To ensure fairness and consistency for all students, late penalties apply to any assignment submitted after the stated deadline unless supported by an approved academic accommodation. Late work will incur an immediate deduction of five (5) percentage points, followed by an additional five (5) percentage points per day thereafter. For example, a written assignment normally worth 20% would be reduced to 15% if submitted later on the same day, 10% if submitted the next day, and so on. Because several components of this course are completed in class (e.g., Ethical Case Memo 1, Mini Quizzes, Structured Debates, and the Data Governance Policy Brief), they cannot be made up without documented accommodation. Students are responsible for managing their time effectively, planning ahead, and ensuring that all take-home components, including Ethical Case Memo 2 and the Fairness Audit Report, are submitted on Brightspace before the deadline to avoid penalties.

Midterm and Final Exam

There will be no midterm or final examination in this course.

Deferred In-Class Quizzes/Tests or Midterms:

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.

Use of Generative Artificial Intelligence

AI use in this course varies by assignment. Some activities will explicitly invite you to use AI

tools; others will require work completed independently. Please read each assignment's instructions carefully for permitted and prohibited uses. When AI is used, be transparent about how you used it and apply critical judgment to verify its accuracy and relevance.

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>			X	
BC2 Collaboration <i>Graduates will be collaborative and effective contributors in team environments that respect the experience, expertise and interest of all members.</i>				X
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>				X
BC4 Communication <i>Graduates will be effective and persuasive in their communications.</i>				X

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 anyone 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: [Pregnancy Academic Accommodation Information - Equity and Inclusive Communities](#)

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: [Academic Regulations for Students with Religious Obligations < Carleton University](#)

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: [Sexual Violence Prevention & Survivor Support - Equity and Inclusive Communities](#)

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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