

**DATA ANALYTICS AND INFORMATION  
SYSTEMS FOR ACCOUNTING**  
BUSI 3040A  
FALL 2024

<b>Instructor:</b>	Naomi Fernando, CPA (she/her/hers)
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<b>Office:</b>	Nicol Building 7036
<b>Office Hours:</b>	Office hours are available upon request by email. See Brightspace on how to book.
<b>Modality:</b>	HyFlex
<b>Class Times:</b>	Thursday from 11:35 – 14:25

**Pre-requisites:** BUSI 1401 or BUSI 2400, and BUSI 3007 with a grade of C- or higher in each.

**Course Calendar Description:**

Data analysis in accounting, working with and making sense of big data using various data analysis tools. Specific topics include; data collection, cleaning, analyzing, visualization, and decision making in different areas of accounting.

**Course Description:**

This course will focus on the application of data analysis in accounting. Students will learn theoretical and practical aspects of working with and making sense of big data. They will understand how data can provide insight into different accounting situations. Students will also learn about the application of data analytics to audit, financial, managerial accounting and tax.

## Drop Course Policy

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

## Learning Outcomes:

1. Recognize what data analytics is and how it is related to accounting information systems (AIS).
2. Assess the risks related to the use of AIS and identify the appropriate controls using different frameworks.
3. Use tools to collect, clean and analyze data.
4. Interpret results from data analysis to make quality decisions.
5. Present and communicate financial and non-financial information using data visualizations.
6. Apply data analytics to auditing, financial accounting, management accounting and tax.

## Reading(s)/Textbook(s)/Required Materials

### 1) Textbook:

Data and Analytics in Accounting: An Integrated Approach, 1st Edition, Dzurinin, Geerts, Lenk ISBN: 978-1-119-72315-8

Available at: [www.wileyplus.com](http://www.wileyplus.com)

Integration Code: e3c6447d-70cf-4811-9fab-fea9a75331ad

### 2) Required software:

- Microsoft Excel
- Power BI
- Tableau
- Alteryx

Instructions for obtaining each of the above software through your school account will be provided on Brightspace.

### 3) Course Website (required): [www.carleton.ca/brightspace](http://www.carleton.ca/brightspace)

- Weekly PowerPoint files (Please come to class prepared with either a hard copy, or soft copy accessible on a reasonable device (not your phone))
- Videos of class lectures

- Assignments and related submission Dropbox
- Additional materials: reference material, additional practice problems with solutions, listing of recommended textbook exercises.

### Grading Scheme

<b>Assessment Title</b>	<b>Assessment Description</b>	<b>Tool</b>	<b>Weight</b>
Show me your work	Individual submissions based on in (best 8 of 10 weeks)	MS Word	5%
Assignment 1: Basic Investigation	Individual analysis and report	MS Word, Excel	5%
Assignment 2: Analysis and Report	Perform analysis and create report	Excel and Power BI	25%
Assignment 3 (Group Project): Managerial Analytics	In a group, create dashboard and report, and present to stakeholders	Power BI or Tableau	20%
Assignment 4: Audit Data Analytics	Individually use audit data analytics to answer questions	MindBridge	5%
Final Exam (In-person)	Analysis and response to questions	Power BI or Tableau, MS Word, Excel	40%
<b>Total</b>			<b>100%</b>

### *Late policy for individual assignments*

The assignment deadlines afford plenty of time after the completion of related course material and as such, should be sufficient. Do not wait until the last minute to attempt the assignments. Sometimes, despite our best efforts, and for good reasons, we can't meet our deadlines. In this course, you have two days of grace that you can apply to missed deadlines. For example, a single assignment may be two days late or two assignments may each be one day late with no penalty. There is no reason required. However, you need to email me before the deadline indicating that you will be late, but that you do plan on submitting your assignment. Once the two days have been used, no further late submissions will be accepted and any late submissions at that stage will receive 0. This is only applicable for individual assignments.

### **Show Me Your Work (5%)**

This course is heavily practice-based. You can't simply read the textbook to develop the required skills. You will practice techniques by completing labs, cases, and problems.

After class each week, you will be asked to upload your work resulting from one of the problems we complete together in class. The submissions will be reviewed for completion and reasonableness but not graded in detail. The purpose of the grades is to provide you with a reward for participating in problem-solving during the lectures. Think of it as getting credit each week for participation and completion of a recommended problem. There will be 10 "Show Me Your Work" and only 8 will be counted towards your final participation grade and you can drop your two lowest scores.

Showing me your work earns you 5% of your final grade in this course. Because of the flexibility built into this component of your grade, I will not offer extensions or make-up opportunities for this part of the course grade.

### **Individual Assignments – 3 in total (35%)**

The assignments will be due on the following dates by **11:59 pm**:

<b><u>Assignment #</u></b>	<b>Due date</b>
Assignment 1: Basic Investigation	September 22
Assignment 2: Analysis and Report	October 20
Assignment 3: Audit Data Analytics	November 10

Assignments are done individually. Students will NOT put names on their assignments. I will be able to assess assignments anonymously to maintain impartiality throughout the marking process.

### **Group Project (20%)**

Additional information regarding the group project will be provided on Brightspace.

The assignment will be due November 22nd by 11:59 PM.

Late submissions will not be accepted.

At the end of the term, you should complete and submit an Evaluation Form where you will evaluate every team member's contribution to the team effort (including your own). Consistent poor peer evaluations may result in reduced individual grades on team assignments. Thus, your final individual grade for the Team Project will be based on:

- (1) the quality of the report/presentation; and
- (2) peer evaluation.

Additional instructions will be provided in Brightspace.

### **Final Exam (40%)**

The final exam will be held in person during the final exam period (December 9-21). The duration of the exam will be 3 hours. The final examination will cover the whole course.

**You need to obtain a minimum grade of 40% on the final exam to pass this course.**

### **Deferred Examinations/Assignments:**

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 personally to discuss.

If you wish to defer a Midterm or an Assignment, please reach out directly to your instructor to discuss. For more information or to apply for a deferral vis

**Preliminary Course Schedule:**

Week #	Dates	Topic	Related Assessment	
			Participation (SMYW)	Assignment
1	05-Sep-24	Data and Analytics in the Accounting Profession		
2	12-Sep-24	Foundational Data Analysis Skills	SMYW 1	
3	19-Sep-24	Motivations and Objectives for Data Analysis	SMYW 2	Assignment 1 due September 22, 2024, by 11:59 pm
4	26-Sep-24	Planning Data and Analysis Strategies	SMYW 3	
5	03-Oct-24	Analysis: Data Preparation	SMYW 4	
6	10-Oct-24	Analysis: Information Modelling	SMYW 5	
7	17-Oct-24	Analysis: Data Exploration	SMYW 6	Assignment 2 due October 20, 2024, by 11:59 pm
	24-Oct-24	<b>Week of Oct 21, 2024 - Reading Week</b>		
8	31-Oct-24	Interpreting Data Analysis Results	SMYW 7	
9	07-Nov-24	Communicating Data Analysis Results	SMYW 8	Assignment 3 due November 10, 2024, by 11:59 pm.
10	14-Nov-24	Recent Data and Analyses Developments in Accounting	SMYW 9	
11	21-Nov-24	MindBridge continuation and introduction to Alteryx		Assignment 4 due November 22, 2024, by 11:59 pm
12	28-Nov-24	Assignment 5 presentations		
13	05-Dec-24	Alteryx / Review class	SMYW 10	

\*\*Please note this schedule is subject to change

## ***Other***

### **Brightspace**

Brightspace will be used in this course. It is critical to use this learning tool on a regular basis. This is how I will communicate important information, so please make sure to check on a regular basis.

We will be using Brightspace as follows:

- To communicate with students on regular basis (e-mail, announcements, etc.)
- To post weekly agendas outlining recommended readings, deliverables, etc. each week
- To post notes of an administrative nature or updates to the course outline, if required
- To provide a place for you to upload your deliverables

To access Brightspace, type in the following URL: <https://brightspace.carleton.ca>

### **Marking**

The assignments and final exam will be marked by the teaching assistants and the instructors together and follow a rigorous quality control process that reasonably assures that the grade awarded is fair. However, no system is 100% error-free, so it is possible that you may wish to call into question a grade that has been awarded. In this circumstance, please write a brief email describing the difficulty with the awarded grade to the instructor no later than seven calendar days following the date the assignments/tests were handed back. Please be sure to include your student number in the email to enable us to properly identify it.

### **Reduction of Bias**

I make an effort to reduce unintentional bias in grading by, for example and when possible, grading anonymously, using clear and specific rubrics, and grading tests one question at a time (grading all of question 1 before grading any of question 2), etc.



### **Student's Responsibilities with regards to deadlines**

It is your responsibility to ensure that you meet (1) the SMYW deadlines, (2) the assignment deadlines, and (3) the final exam date and time. It's as easy as entering these in your calendar on your smart phone or paper agenda. There is built in flexibility for participation marks you have two flex days for individual assignments. I do not offer any other accommodation in terms of deadlines. When you register for this course, you are doing so on the assumption that you are fully available during the final exam period that runs from December 9-21. I will not accommodate any requests to write the final exam early or late.

**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
<b>CHECK (X) ONE PER ROW</b>				
<b>BC1 Knowledge</b> <i>Graduates will be skilled in applying foundational business knowledge to appropriate business contexts.</i>				<b>X</b>
<b>BC2 Collaboration</b> <i>Graduates will be collaborative and effective contributors in team environments that respect the experience, expertise and interest of all members.</i>			<b>X</b>	
<b>BC3 Critical Thinking</b> <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>				<b>X</b>
<b>BC4 Communication</b> <i>Graduates will be effective and persuasive in their communications.</i>				<b>X</b>
<b>BI5 Global Awareness (BIB ONLY)</b> <i>Graduates will be globally-minded.</i>	<b>X</b>			

**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](https://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](https://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](https://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](mailto: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](https://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](https://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](https://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](mailto:bcom@sprott.carleton.ca) or at [bib@sprott.carleton.ca](mailto: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](http://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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**Important dates**

Date	Activity
FALL TERM 2024	
August 28, 2024	Deadline for course outlines to be made available to students registered in full fall, early fall, and fall/winter courses.
August 30, 2024	Last day for receipt of applications from potential fall (November) graduates.
September 2, 2024	Statutory holiday. University closed.
September 3, 2024	Academic orientation (undergraduate and graduate students).
	<p data-bbox="511 762 930 793">Orientation for new Teaching Assistants.</p> <p data-bbox="511 846 1372 940">All new students are expected to be on campus. Class and laboratory preparations, departmental introductions for students, and other academic preparation activities will be held.</p>
September 4, 2024	Fall term begins. Full fall, early fall, and fall/winter classes begin.
September 10, 2024	Last day for registration and course changes (including auditing) in early fall courses.
September 17, 2024	<p data-bbox="511 1188 1377 1251">Last day for registration and course changes (including auditing) in full fall, late fall, and fall/winter courses.</p> <p data-bbox="511 1304 1239 1335">Last day to withdraw from early fall courses with a full fee adjustment.</p> <p data-bbox="511 1388 1360 1482">Graduate students who have not electronically submitted their final thesis copy to Graduate Studies will not be eligible to graduate in fall 2024 and must register for the fall 2024 term.</p>
September 20-22, 2024	Full summer and late summer term deferred final examinations will be held.

September 30, 2024	Last day to withdraw from full fall and fall/winter courses with a full fee adjustment.
October 1, 2024	Last day for academic withdrawal from early fall courses.
	Last day to request Formal Examination Accommodations for Oct/Nov final examinations from the Paul Menton Centre for Students with Disabilities. Note that it may not be possible to fulfil accommodation requests received after the specified deadlines.
October 11, 2024	Last day for summative tests or examinations, or formative tests or examinations totaling more than 15% of the final grade, in early fall term undergraduate courses, before the official Oct/Nov final examination period (see examination regulations in the Academic Regulations of the University section of the Undergraduate Calendar/General Regulations of the Graduate Calendar).
	December examination schedule (fall term final and fall/winter mid-terms) available online.
October 14, 2024	Statutory holiday. University closed.
October 15, 2024	Last day for receipt of applications for admission to an undergraduate degree program for the winter term from applicants whose documents originate from outside Canada or the United States.
October 18, 2024	Last day of early fall classes.
	Last day for final take-home examinations to be assigned in early fall courses, with the exception of those conforming to the examination regulations in the Academic Regulations of the University section of the Undergraduate Calendar/General Regulations of the Graduate Calendar.
	Last day that can be specified by a course instructor as a due date for term work for early fall courses.
October 21, 2024	Deadline for course outlines to be made available to students registered in late fall courses.



October 21-25, 2024	Fall break, no classes.
October 26-27, November 2-3, 2024	Final examinations in early fall undergraduate courses will be held.
October 28, 2024	Late fall classes begin.
November 8, 2024	Last day to withdraw from late fall term courses with a full fee adjustment.
November 15, 2024	Last day for academic withdrawal from full fall and late fall courses.
	Last day to request Formal Examination Accommodations for December full fall and late fall examinations and fall/winter midterm examinations from the Paul Menton Centre for Students with Disabilities. Note that it may not be possible to fulfil accommodation requests received after the specified deadlines.
	Last day for receipt of applications for admission to an undergraduate degree program for the winter term.
November 15-17, 2024	Early fall undergraduate deferred final examinations will be held.
November 22, 2024	Last day for summative tests or examinations, or formative tests or examinations totaling more than 15% of the final grade, in full fall term or fall/winter undergraduate courses, before the official December final examination period (see examination regulations in the Academic Regulations of the University section of the Undergraduate Calendar/General Regulations of the Graduate Calendar).
November 29, 2024	Last day for graduate students to submit their supervisor-approved thesis, in examinable form to the department.
	Last day for summative tests or examinations, or formative tests or examinations totaling more than 15% of the final grade, in late fall term undergraduate courses, before the official final examination period (see examination regulations in the Academic Regulations of the University section of the Undergraduate Calendar/General Regulations of the Graduate Calendar).

November 30, 2024	Last day for receipt of applications from potential winter (February) graduates.
December 6, 2024	Fall term ends.
	Last day of full fall and late fall classes.
	Classes follow a Monday schedule.
	Last day for final take-home examinations to be assigned, with the exception of those conforming to the examination regulations in the Academic Regulations of the University section of the Undergraduate Calendar/General Regulations of the Graduate Calendar.
	Last day that can be specified by an instructor as a due date for term work for full and late fall courses.
	Last day for receipt of applications for undergraduate degree program transfers for winter term.
December 7-8, 2024	No classes or examinations take place.
December 9-21, 2024	Final examinations in full fall and late fall courses and mid-term examinations in fall/winter courses will be held. Examinations are normally held all seven days of the week.
December 21, 2024	All final take-home examinations are due on this day, with the exception of those conforming to the examination regulations in the Academic Regulations of the University section of the Undergraduate Calendar/General Regulations of the Graduate Calendar.
December 24, 2024 at noon through January 2, 2025 inclusive	University closed.