

ITIS5431
Business Analytics for Managers
Winter 2023

Instructor: Hugh Cairns
Email: hughcairns@cmail.carleton.ca
Phone: NA
Office: NA
Office Hours: Upon Request

Class Meeting: Wednesday 8:30-11:30 am, NI3040

Course Calendar Description: Decision support systems in organizations; moving from business intelligence to business analytics; big data trends in organizations; theories and trends in data analytics.
Includes: Experiential Learning Activity

Course Description: This course covers key concepts for managers involved with Business Analytics. Students are expected to interact with specialized software to manipulate data and explore data sets to uncover answers to business questions.

Course Learning Objectives:

1. Students will understand the components of Business Analytics
2. Students will explore SAS Enterprise Guide and manipulate Data
3. Students will gain valuable insights from examination of the data.

Course Prerequisites: Prerequisite(s): ITIS 5401 or permission of the School of Business.

Required Materials: Business Analytics Using SAS® Enterprise Guide® and SAS® Enterprise Miner®: A Beginner's Guide. Copyright © 2014, SAS Institute Inc., Cary, NC, USA (Parr Rudd)
Students will be accessing the SAS software using the Carleton VDI platform.

Final Exam Date: An exam will be held on the last day of class

Drop Course Policy: The deadline for academic withdrawal is the last day of classes (each term).

Grading Scheme:	3 Hands on Assignments	45%
	Class Participation	5%
	Final Exam	50%
	TOTAL	100%

Each component of your grade will be assigned a percentage score. Your final course grade will be a weighted average of each of these components.

- **Assignments:** Students will be given three assignments for completion. SAS Enterprise Guide will be used to complete the assignments. Students may work in groups to complete the assignments; however, each student must prepare and submit their own assignment.
 - **Contribution to Class Discussion:** Students are expected to come to class prepared and contribute to the discussion and lecture material.
 - **Final Written Take home Exam:** will be delivered using Brightspace on February 16th. The exam will be 3 hours in duration and may ask the students to demonstrate their ability to manipulate and analyze; a dataset, SAS Output and or Short Answer Questions.

Late Assignments:

To ensure fairness for all students, penalties will be applied to late assignments: Failure to submit an assignment on time will result in an initial penalty of five (5) percentage points, followed by an additional (2) percentage points per day thereafter. For example, an assignment that would normally merit a grade of 80% would receive a grade of 75% if submitted after the deadline on the due date, 73% if submitted the following day, and so on. Requests for extension will be considered in cases of illness, family emergency, or other exceptional circumstances.

Preparation and Participation: Students are expected to have read the readings assigned. This will help the students understand the context of the analytical method(s) that will be covered in class.

Contribution to Program Learning Goals ([MBA](#)):

MBA Learning Goal	Not Covered	Introduced	Taught but Not Assessed	Taught <u>and</u> Assessed
MB1 Leadership and Collaboration <i>Graduates will be equipped for leadership and collaboration.</i>		✓		
MB2 Communication <i>Graduates will be effective communicators</i>		✓		
MB3 Critical Thinking and Problem Solving <i>Graduates will be skilled in critical thinking and problem solving.</i>				✓
MB4 Functional Knowledge <i>Graduates will have functional knowledge of all areas of business.</i>				✓
MB5 Global Business <i>Graduates will have an appreciation of the global environment of business.</i>	✓			
MB6 Ethical Reasoning <i>Graduates will be skilled in ethical reasoning and decision-making.</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).

Recommended Calculator for 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 Spratt School of Business encourages group assignments. They provide you with opportunities to develop and enhance interpersonal, communication, leadership, followership and other group skills. Group assignments are also an effective way to learn integrative skills for putting together a complex task. Your professor may assign one or more group tasks, assignments, or 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.

Peer Evaluation for Group Work

To deter social loafing and ensure fairness in grading, you will be asked to assess the contribution of your fellow group members. This information will be used when assigning the grade for the final project. The procedure is as follows: Each student should take 100 points and allocate those points to the various members of the group (including him/her/themselves) to reflect the contributions made by each member. For instance, if there are four members in a group and everyone contributed equally, each individual would receive 25 points. Conversely, if an individual contributed relatively little, the remaining group members might allocate few points to that member. To ensure that these peer evaluation scores are reasonable and free from personal bias, you will be asked to provide a detailed written explanation for your point allocation.

Letter Grades:

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	F = Below 50
A = 85-89	B = 73-76	C = 63-66	D = 53-56	
A - = 80-84	B - = 70-72	C - = 60-62	D - = 50-52	

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:

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

- **Pregnancy**

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: <https://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf>

- **Religious Obligations**

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: <https://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf>

- **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. <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: <https://carleton.ca/sexual-violence-support/>

- **Student Activities**

Carleton University recognizes the substantial benefits, to both the individual student and the university, that result from participating in activities beyond the classroom experience. Reasonable accommodation will 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: <https://students.carleton.ca/course-outline/>

Academic Integrity:

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—are a serious academic offence, weaken the quality of the degree, and will not be tolerated. 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. 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/>

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: <https://carleton.ca/csas/>

Other Important Information:

- Students must always retain a hard 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 can do so by visiting <https://carleton.ca/its/get-started/new-students-2/>

COURSE SCHEDULE

Date	Topic/Agenda	Readings
01/11/2023	<ul style="list-style-type: none"> • Introduction and review of course outlines, class norms and technical environment • Discussion on the spectrum of business Analytics and the types of business problems that can be solved. • Business Analytics Maturity Model • The Environment enabling Business Analytics The Business Analytics Model • The Levels of Business Analytics • Marketing Analytics • Business Case Distributed 	<ul style="list-style-type: none"> • Kiron, D., & Shockley, R. (2011). Creating Business Value with Analytics. MIT Sloan Management Review Vol 53. No. 1, 57-63. • Davenport, T. H. (2006). COMPETING ON ANALYTICS. Harvard Business Review, 84(1), 98-107. • Parr-Rudd Chapter 5 • Lecture Notes
01/18/2023	<ul style="list-style-type: none"> • Goals of analytical Projects • Examination of the properties of data • Introduction to the data lifecycle and how it supports analytical activities. • Sources of Data • The Data Warehouse • Overview of data integration by means of the ETL process. • Market Wallet Share Analysis using EG • Introduction to the data model for ad hoc queries and reporting. • <i>Introduction to SAS Enterprise Guide</i> • Assignment 1 Distributed 	<ul style="list-style-type: none"> • Parr-Rudd ,2, & 6 • Lecture Notes
1/25/2023	<ul style="list-style-type: none"> • Discussion of data quality and sources of poor data. • Discussion of direct vs indirect analytics • Types of Marketing Models • CRISP and SEMMA • Discussion of the motivation for Customer Segmentation to the marketing function. • Assignment 2 Distributed 	<ul style="list-style-type: none"> • Reid, A., & Catterall, M. (2005). Invisible data quality issues in a CRM implementation. <i>Journal of Database Marketing and Customer Strategy Management</i> Vol 12 (4), 305-314. • Lecture Notes
2/01/2023	<ul style="list-style-type: none"> • Discussion of Clustering Techniques • Enterprise Guide Tutorial • Assignment 3 Distributed 	<ul style="list-style-type: none"> • McCarty, J. A., & Hastak, M. (2007). Segmentation approaches in data-mining: A comparison of RFM, CHAID, and logistic regression. <i>Journal of Business Research</i> Vol 60, Issue 6, 656-662. • Assignment 2 Submitted
2/08/2023	<ul style="list-style-type: none"> • Business Analytics Competency Centre • Analytics Governance • Canadian Regulatory Environment • Further Considerations to the analytical approach to CRM • Potential Pitfalls of Analytics for CRM 	<ul style="list-style-type: none"> • Lecture Notes • Assignment 2 Submitted
2/15/2022	<ul style="list-style-type: none"> • Further Considerations to the analytical approach to CRM • Prioritization of Analytic Projects • Future Directions • Ethical Considerations of analytics • Review 	<ul style="list-style-type: none"> • Laursen and Thorland, Chapters. 7-9 • Nguyen, Bang (2011). The Dark Side of CRM, <i>The Marketing Review</i> Vol 11 No.2 pp137-149. • <i>Research</i> 15(2) 150-165 • Boyd, D., & Crawford, K. (2012). Critical Questions for Big Data; Provocations for a cultural, technological, and scholarly phenomenon. <i>Information, Communication, and Society</i> Vol. 15 No. 5, 662-679.

Covid-19 Information:

It is important to remember that COVID is still present in Ottawa. The situation can change at any time and the risks of new variants and outbreaks are very real. There are [a number of actions you can take](#) to lower your risk and the risk you pose to those around you including being vaccinated, wearing a mask, staying home when you're sick, washing your hands and maintaining proper respiratory and cough etiquette.

Feeling sick? Remaining vigilant and not attending work or school when sick or with symptoms is critically important. If you feel ill or exhibit COVID-19 symptoms do not come to class or campus. If you feel ill or exhibit symptoms while on campus or in class, please leave campus immediately. In all situations, you must follow Carleton's [symptom reporting protocols](#).

Masks: Carleton has paused the [COVID-19 Mask Policy](#), but continues to strongly recommend masking when indoors, particularly if physical distancing cannot be maintained. It may become necessary to quickly reinstate the mask requirement if pandemic circumstances were to change.

Vaccines: Further, while proof of vaccination is no longer required as of May 1 to attend campus or in-person activity, it may become necessary for the University to bring back proof of vaccination requirements on short notice if the situation and public health advice changes. Students are strongly encouraged to get a full course of vaccination, including booster doses as soon as they are eligible, and submit their booster dose information in [cuScreen](#) as soon as possible. Please note that Carleton cannot guarantee that it will be able to offer virtual or hybrid learning options for those who are unable to attend the campus.

All members of the Carleton community are required to follow requirements and guidelines regarding health and safety which may change from time to time. For the most recent information about Carleton's COVID-19 response and health and safety requirements please see the [University's COVID-19 website](#) and review the [Frequently Asked Questions \(FAQs\)](#). Should you have additional questions after reviewing, please contact covidinfo@carleton.ca.
