



**Carleton**  
UNIVERSITY

**SPROTT**  
SCHOOL OF BUSINESS

# ITIS5431 A

## Business Analytics for Managers

Mar 2, 2020 – April 7, 2020

Tuesday 8:30-11:30

Instructor: Hugh Cairns

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Office Hours: By Appointment

**Course calendar description from 2019/2020 graduate calendar:**

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.

**Learning Objectives:** Introduction of the role of data mining in current business organizational strategy. This course will provide an overview of the different Analytics approaches by situating data mining in organizational and commercial context. Students will be expected to understand and communicate the business value of the business analytics and the merits of different analytical approaches.

The students will also participate in exercises in data preparation and profiling and hands on predictive modelling using a variety of data analytic techniques and practices using a SAS Enterprise Guide.

**Course Prerequisites:** The prerequisites for this course are: [BUSI 5801](#) (or equivalent).

**Textbook(s):** There will be two textbooks used for ITIS5431

- Business Analytics for Managers: Taking Business Intelligence Beyond Reporting, 2<sup>nd</sup> Edition. Wiley. Hoboken NJ
- Business Analytics Using SAS® Enterprise Guide® and SAS® Enterprise Miner®: A Beginner's Guide. Copyright © 2014, SAS Institute Inc., Cary, NC, USA

**Drop Course Policy:**

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

<b>Grading Scheme:</b>	3 Hands on Assignments	30%
	1 Business Case Report	20%
	Final Exam	50%
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	<b>TOTAL</b>	<b>100%</b>

**Course Software:** SAS Enterprise Guide will be used to complete the course assignments. It is highly recommended that students familiarize themselves with SAS as much as possible before the assignments are distributed. The course will use the SAS for Academics or the SAS VDI environment on Carleton's mydesktop platform. Instructions on how to access this portal will be given on the CULearn site.

**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.

**Business Case:** A Business Case will be distributed during the first class. The business Case is due Before the last class (April 7, 2020) and must be submitted via the CULEARN website. Students will be asked to interpret a business case and provide a recommendation. Students should reference the material Laursen & Thorlund textbook. All students must submit their own work. The business case is subject to the academic integrity policies found at the bottom of this outline.

**Final exam date:** A final written exam will be delivered using CULEARN on April 14<sup>th</sup> during regular class hours. 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.

**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.

**Missed assignments and deferred examination:** All assignments and cases not submitted by the specified times will be assigned a mark of zero.

**Deferred Final Examination:**

Students unable to write a final examination because of illness or other circumstances beyond their control must contact the instructor and the MBA office in writing to request a deferred exam. Permission may be granted when the absence is supported by a medical certificate and or appropriate document/s to support the reason for the deferral.

**Course Schedule**

Date	Topic/Agenda	Readings
3/3/ 2020	<ul style="list-style-type: none"> <li>• Introduction and review of course outlines, class norms and technical environment</li> <li>• Discussion on the spectrum of business Analytics and the types of business problems that can be solved.</li> <li>• Business Analytics Maturity Model</li> <li>• The Environment enabling Business Analytics The Business Analytics Model</li> <li>• The Levels of Business Analytics</li> <li>• Marketing Analytics</li> <li>• <b>Business Case Distributed</b></li> </ul>	<ul style="list-style-type: none"> <li>• Kiron, D., &amp; Shockley, R. (2011). Creating Business Value with Analytics. MIT Sloan Management Review Vol 53. No. 1, 57-63.</li> <li>• Davenport, T. H. (2006). COMPETING ON ANALYTICS. Harvard Business Review, 84(1), 98-107.</li> <li>• Laursen and Thorland, Chapters. 1-4</li> <li>• Parr-Rud Chap</li> <li>• Parr-Rudd Chapter 5</li> <li>• Lecture Notes</li> </ul>
3/10 2020	<ul style="list-style-type: none"> <li>• Goals of analytical Projects</li> <li>• Examination of the properties of data</li> <li>• Introduction to the data lifecycle and how it supports analytical activities.</li> <li>• Sources of Data</li> <li>• The Data Warehouse</li> <li>• Overview of data integration by means of the ETL process.</li> <li>• Market Wallet Share Analysis using EG</li> <li>• Introduction to the data model for ad hoc queries and reporting.</li> <li>• <i>Introduction to SAS Enterprise Guide</i></li> <li>• <b>Assignment 1 Distributed</b></li> </ul>	<ul style="list-style-type: none"> <li>• Laursen and Thorland, Chapters. 5-6</li> <li>• Parr-Rudd ,2, &amp; 6</li> <li>• Lecture Notes</li> </ul>
3/17/ 2020	<ul style="list-style-type: none"> <li>• Discussion of data quality and sources of poor data.</li> <li>• Discussion of direct vs indirect analytics</li> <li>• Types of Marketing Models</li> <li>• CRISP and SEMMA</li> <li>• Discussion of the motivation for Customer Segmentation to the marketing function.</li> <li>• <b>Assignment 2 Distributed</b></li> </ul>	<ul style="list-style-type: none"> <li>• Reid, A., &amp; 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.</li> <li>• Lecture Notes</li> </ul>
3/24/ 2020	<ul style="list-style-type: none"> <li>• Guest Lecture</li> <li>• Discussion of Clustering Techniques</li> <li>• Enterprise Guide Tutorial</li> <li>• <b>Assignment 3 Distributed</b></li> </ul>	<ul style="list-style-type: none"> <li>• McCarty, J. A., &amp; 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.</li> <li>• <b>Assignment 2 Submitted</b></li> </ul>

3/31/2020	<ul style="list-style-type: none"> <li>• Business Analytics Competency Centre</li> <li>• Analytics Governance</li> <li>• Canadian Regulatory Environment</li> <li>• Further Considerations to the analytical approach to CRM</li> <li>• Potential Pitfalls of Analytics for CRM</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Lecture Notes</b></li> <li>• <b>Assignment 2 Submitted</b></li> </ul>
4/7/2020	<ul style="list-style-type: none"> <li>• Further Considerations to the analytical approach to CRM</li> <li>• Prioritization of Analytic Projects</li> <li>• Future Directions</li> <li>• Ethical Considerations of analytics</li> <li>• Review</li> </ul>	<ul style="list-style-type: none"> <li>• Laursen and Thorland, Chapters. 7-9</li> <li>• Nguyen, Bang (2011). The Dark Side of CRM, <i>The Marketing Review Vol 11 No.2</i> pp137-149.</li> <li>• <i>Research 15(2)</i> 150-165</li> <li>• Boyd, D., &amp; Crawford, K. (2012). Critical Questions for Big Data; Provocations for a cultural, technological, and scholarly phenomenon. <i>Information, Communication, and Society Vol. 15 No. 5</i>, 662-679.</li> <li>• <b>Business Case Submitted</b></li> </ul>

### Policy on Mobile Devices

The use of mobile devices IS NOT PERMITTED in this class. It is disruptive to the instructor and class members. If you carry such a device to class, please make sure it is turned off. If an emergency situation requires you to keep it turned on, please discuss this with your instructor prior to class.

### 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, follower-ship 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.

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  
F = Below 50

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 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](http://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](http://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](http://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 is 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](http://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. 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: [carleton.ca/csas](https://carleton.ca/csas).

### **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 may wish to do so by visiting <https://carleton.ca/its/get-started/new-students-2/>