



The
knowledge
to compete

**BUSINESS ANALYTICS
BUSINESS 4406 – Winter 2015**

Class Times

<i>Section</i>	<i>Day</i>	<i>Time</i>
A	Mondays	11:35 – 14:25

INSTRUCTOR

Dr. Alex Ramirez

Office: DT1722

Phone: 613.520.2600 x2397

Office Hours: Tuesdays 3:00 – 4:30 PM or by appointment

Email: Alex_Ramirez@Carleton.ca

Course Prerequisites

Third-year standing and BUSI 2400 with a grade of C or higher – The School of Business enforces all prerequisites.

Course Description

BUSI 4406 [0.5 Credit]

Business Analytics

Evolution of Decision Support Systems. Business Intelligence. Data Mining and Warehousing. Web Analytics. Mobile Apps for Business Analytics. Strategic use of Information Systems for Competitive Advantage

Lecture three hours a week.

This is a course dealing with the evolution of organizational decision making and the systems that support decision making in organizations. The goal is to understand the role of *Business Analytics* in today organizational environment. It was designed to help you:

- become aware of the present state of knowledge in the areas of Business Intelligence and Business Analytics
- become familiar with academic and non-academic literature in these fields

- develop a personal perspective on emerging theories and their application, current debates and controversies within these disciplines
- develop analytical and critical skills to deal with these issues (i.e., help you develop, present and defend arguments)

Approach taken in this Course

Business Analytics is perhaps the *buzzword* of the day. It has permeated the world of business, especially after the economic downturn of 2008. Business Analytics is a **data-driven process that provides insight**. It may report on historical information or predictions about future events. The end goal of analytics is to add value through analyses that turn data into information. This course introduces a range of methods and modern technologies that are used in business analytics. We start from where we are all comfortable, MS-Excel, and move into a world of more sophisticated tools that need a different understanding of manipulation of data through tools that are for modelling, visualization, and forecasting.

The instructional approach will include some software demos and illustrate applications of decision support technologies to problems in finance, marketing, manufacturing, services and health care management, and information systems consulting. Students have the opportunity to work on a personal project.

The course introduces recent approaches to managerial decision analysis and support. The student will be exposed to formal methods and specific computer-based tools. The course deals with advanced techniques and tools to support decision making processes.

Course Objectives

The main goal of this course is to provide the students with an understanding of management support capabilities of information technologies to support the function of Business Analytics, and the development of skills to become a business analytics professional. At the conclusion of this course, students will be able to:

- demonstrate an understanding of the underlying methods and technologies used in business analytics;
- analyse and applied alternate methods for designing, developing and implementing Business Analytics tools;
- evaluate the selected alternative technology to use Business Analytics tools;
- identify and justify opportunities for management support systems development and the specific considerations which apply in their effective management.

Required Textbook

This course does not require a textbook, there are readings assigned in a weekly basis that are accessible through CU Learn. You are expected to come to lectures prepared to discuss these readings.

Grading

Your final grade will be composed of the following:

- ✓ **Three Assignments 30% (10% each)**
- ✓ **In Class Mid Term Examination 30%**
- ✓ **Project 40% = Project Proposal 10% + Final Report 30%**

Course Project

THIS IS AN INDIVIDUAL PROJECT!

You can choose one of the topics discussed in our course – or propose another topic within the scope of this course. [THIS HAS BEEN A VALUABLE EXERCISE FOR STUDENTS IN THE PAST. IT IS A WAY THEY HAVE MANAGED TO EXPLORE WITH MORE DETAIL ASPECTS OF INTEREST IN THEIR DISCIPLINES OR WORK ENVIRONMENT. SOME HAVE EVEN USED THEIR FAMILY’S BUSINESS TO HELP THEM DEVELOP AN ANALYTICS STRATEGY]:

Within that topic you have to identify a problem and propose a way to investigate its solution. Depending on its scope, the project does not have to solve the problem, but it should serve as a starting point to a bigger commitment that you may continue working on your own, after the course ends.

With the advantage of using the Virtual Desktop Infrastructure (VDI), you will have access to MS-Office 2013 and SAS tools directly on your own device until the end of the term, without any cost!

First: Prepare a 2-3 pages **proposal¹ by March 02, 2015**. *If approved, then:* a final Report of the project and ALL relevant documentation is **due on April 23, 2015**.

If your proposal is not approved, you will receive a detailed e-mail message indicating the change of scope of the proposal to be considered; then you may resubmit the updated proposal, or prepare a new proposal. This will be agreed upon on the terms within the e-mail.

There is a Carleton CU Learn site for this course and communication regarding this course will be conducted through it. It is extremely important that you log in regularly to find out what’s pending and any announcement (if any) by following the discussion board. Assignments are to be uploaded in the site and their grades will be posted there as well.

¹ There are some proposal examples in CU Learn from students in past semesters. Please note that the course has changed its content since those proposals were written and approved, except for Proposal Example 04. Use them to understand the scope of a proposal, not the actual proposal you need to write.

Outline*

Session	Date	Topic	<i>Deadlines</i>
1	01/05	<u>THEORIES</u> Welcome – Course Administration – Overview From Decision Making and Support Systems to Business Analytics: A historical introduction	
2	01/12	Decision Making, Systems, Modelling, and Support – TUN Business Analytics Concepts, Methodologies, and Technologies: An Overview – Modelling and Analysis [VDI Technical support visit]	
3	01/19	<u>TOOLS</u> Excel Opportunities and Limitations	
4	01/26	TUN's Data Warehousing & Data Marts	
5	02/02	Data Analyses & SAS Enterprise Guide	<i>Assignment 01</i>
6	02/09	<i>Mid Term Exam</i>	
7	02/23	Predictive Modelling & SAS Enterprise Miner	
8	03/02	Data Visualization & SAS Visual Analytics	<i>Project Proposal</i>
9	03/09	Business Forecasting & SAS Forecast Studio	
10	03/16	Text Analytics [Guest Lecturer: Dr. Hine]	<i>Assignment 02</i>
11	03/23	<u>TRENDS</u> Business Analytics on today's job market [Panel] Artificial Intelligence & Expert Systems – Advanced Intelligent Systems	
12	03/30	Big Data Emerging Trends – Social Networking & the Cloud – Presentations	<i>Assignment 03</i>

* Note: While every attempt will be made to keep to the schedule listed above, unforeseen circumstances may necessitate modifications throughout the semester.

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 B - = 70-72 C - = 60-62 D - = 50-52

F = Below 50 WDN = Withdrawn from the course

ABS = Student absent from final exam

DEF = Deferred (See above)

FND = (Failed, no Deferred) = Student could not pass the course even with 100% on final exam

Academic Regulations, Accommodations, Etc.

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 Accommodations

Academic Accommodations for Students with Disabilities

The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your **Letter of Accommodation** at the beginning of the term, and 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 me to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam (*if applicable*).

- The deadlines for contacting the Paul Menton Centre regarding accommodation for final exams for the April 2015 examination period is March 6, 2015.

For Religious Obligations:

Students requesting academic accommodation on the basis of religious obligation should make a formal, written request to their instructors for alternate dates and/or means of satisfying academic requirements. Such requests should be made during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist, but no later than two weeks before the compulsory event.

Accommodation is to be worked out directly and on an individual basis between the student and the instructor(s) involved. Instructors will make accommodations in a way that avoids academic disadvantage to the student.

Students or instructors who have questions or want to confirm accommodation eligibility of a religious event or practice may refer to the Equity Services website for a list of holy days and Carleton's Academic Accommodation policies, or may contact an Equity Services Advisor in the Equity Services Department for assistance.

For Pregnancy:

Pregnant students requiring academic accommodations are encouraged to contact an Equity Advisor in Equity Services to complete a letter of accommodation. The student must then make an appointment to discuss her needs with the instructor at least two weeks prior to the first academic event in which it is anticipated the accommodation will be required.

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 expulsion; suspension from all studies at Carleton; suspension from full-time studies; a refusal of permission to continue or to register in a specific degree program; academic probation; and a grade of Failure in the course, 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 <http://www2.carleton.ca/sasc/advisingcentre/academic-integrity/>.

Assistance for Students:

Student Academic Success Centre (SASC): www.carleton.ca/sasc

Writing Tutorial Services: <http://www1.carleton.ca/sasc/writing-tutorial-service/>

Peer Assisted Study Sessions (PASS): www.carleton.ca/sasc/peer-assisted-study-sessions

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.
- Please note that you will be able to link your CONNECT (MyCarleton) account to other non-CONNECT accounts and receive emails from us. However, 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 CONNECT address. Therefore, it would be easier to respond to your inquiries if you would send all email from your connect account. If you do not have or have yet to activate this account, you may wish to do so by visiting <https://portal.carleton.ca/>

IMPORTANT DATES:

January 5

Winter-term classes begin.

January 16

Last day for registration for winter term courses.

Last day to change courses or sections (including auditing) for winter term courses.

Students who have not deposited (via automated upload) the final copy of their thesis to the office of the Faculty of Graduate and Postdoctoral Affairs must register.

January 31

Last day for a fee adjustment when withdrawing from Winter term courses or the Winter portion of two-term courses. Withdrawals after this date will create no financial change to Winter term fees (financial withdrawal).

February 13

April examination schedule available online.

February 13-21

Fall-term deferred examinations will be held

February 16

Statutory holiday, University closed.

February 16-20

Winter Break. Classes are suspended.

March**1**

Last day for UHIP refund applications for International Students who will be graduating this academic year.

Last day for receipt of applications from potential spring (June) graduates.

March 6

Last day to submit, to the Paul Menton Centre for Students with Disabilities, Formal Examination Accommodation Forms for April examinations.

March 24

Last day for tests or examinations in courses below the 4000-level before the final examination period (see Examinations Regulations in the Academic Regulations of the University section of the calendar).

April 3

Statutory holiday, University closed.

April 8

Winter term ends

Last day of fall/winter and winter-term classes.

Last day for academic withdrawal from fall/winter and winter-term courses.

Last day for handing in term work and the last day that can be specified by a course instructor as a due date for term work for fall/winter and winter-term courses.

April 9-10

No classes or examinations take place

April 11-23

Final examinations in winter term and fall/winter courses may be held. Examinations are normally held all 7 days of the week.

June 8-18 (including Saturdays)

Fall/winter and winter term deferred final examinations will be held.