



The
knowledge
to compete

**BUSINESS ANALYTICS
BUSINESS 4406 – Winter 2014**

Class Times

<i>Section</i>	<i>Day</i>	<i>Time</i>
A	Fridays	8:35 – 11:25

INSTRUCTOR

Dr. Alex Ramirez

Office: DT1722

Phone: 613.520.2600 x2397

Office Hours: Tuesdays 13:30 – 15:30 Hrs. or by appointment

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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.

If you want to use a text as a guide for some of the topics we will be covered, in case you want to have a handy resource to cover the basic information on this topic, you can use

Evans, James R (2013). Business Analytics: Methods, Models, and Decisions, Pearson ISBN13: 978-0-13-295061-9

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):

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.

The school may be able to grant you access to some of the tools we have in our computer labs

First: Prepare a 2-3 pages **proposal¹** by **March 7, 2014**. *If approved, then:* a final Report of the project and ALL relevant documentation is **due on April 27, 2014**.

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 by March 14, 2014.

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. They are meant to show you the scope of a proposal, not the actual proposal you need to write.

Outline*

Session	Date	Topic	<i>Deadlines</i>	Readings
1	01/10	<u>THEORIES</u> Welcome – Course Administration – Overview From Decision Making and Support Systems to Business Analytics: A historical introduction		
2	01/17	Decision Making, Systems, Modelling, and Support – TUN		Readings 01
3	01/24	Business Analytics Concepts, Methodologies, and Technologies: An Overview – Modelling and Analysis		Readings 02
4	01/31	<u>TOOLS</u> Excel Opportunities and Limitations		Readings 03
5	02/07	TUN’s Data Warehousing & Data Marts		Readings 04
6	02/14	Data Analyses with SAS Enterprise Guide	<i>Assignment 01</i>	Readings 05
7	02/28	<i>Mid Term Exam</i>		
8	03/07	Predictive Modelling with SAS Enterprise Miner	<i>Project Proposal</i>	Readings 06
9	03/14	Business Forecasting with SAS Forecast Studio		Readings 07
10	03/21	Neural Networks & Genetic Algorithms for Data Mining	<i>Assignment 02</i>	Readings 08
11	03/28	<u>TRENDS</u> Artificial Intelligence and Expert Systems – Advanced Intelligent Systems		Readings 09
12	04/04	Business Intelligence Implementation: Integration and Emerging Trends – Social Networking & the Cloud	<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.

Medical certificate

Please note that in all occasions that call for a medical certificate you must use or furnish the information demanded in the standard university form.

<http://www1.carleton.ca/registrar/forms/>

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, Plagiarism, 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 December 2013 exam period is November 8, 2013 and for the April 2014 exam period is March 7, 2014.

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/>
