

**Tentative Course outline**

**MIS 612: Align Information Systems and Strategies**

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Appt hours: By appointment

Guest Lecturers:

James Caruso, LeBow College of Business

Yasamine Ndassa, Product Design & Delivery, Analytics, Comcast

**Class begins at 6 pm.**

**Course Description and Objectives**

Vast amounts of data are being generated, collected, stored, processed, analyzed, distributed and used at an ever-increasing rate by organizations. Simultaneously, managers must rapidly and thoroughly understand the factors driving their business in order to sustain a competitive advantage. Business Analytics is an interactive process of analyzing and exploring enterprise data to find valuable insights that can be exploited for competitive advantage. It allows organizations to better understand, anticipate, and shape business outcomes. This course examines the role of analytics as a tool to gain and sustain a competitive advantage in business.

In the first module of this course we will explore the organization’s analytics climate within which strategic decisions are made. We examine why organizational speed and agility supported by fact-based decision making are critical to ensure an organization remains at least one step ahead of its competitors. As a result, there is a growing awareness that alignment among business strategies and information systems are critical to effectively develop and deploy techniques to enhance an organizations decision-making capability.

In the second module of this course we will explore analytics methodology of framing, solving, and communicating qualitative data. This detailed methodology will guide you on how to move from a business problem to insights, which will lead to value creation for the organization.

In the third module of the course we take a deep diveinto text analytics. An important goal of text analytics is to examine large volumes of text to extract patterns and models that can then be incorporated in intelligent applications to help predict future patterns. A growing number of companies hope to take advantage of information buried in previously untapped text documents. Text analytics is the non-trivial extraction of implicit, previously unknown and potentially useful information from textual data. In this module, participants will learn to use Text Mining applications to uncover underlying themes or concepts contained in large document collections, automatically group documents into topical clusters, classify documents into predefined categories, and integrate text data with structured data to enrich predictive modeling endeavors. The module includes laboratory sessions that will require students to use commercial tools such as SAS. The laboratory exercises and assignments are designed to illustrate the use of data in various decision-making situations.

The specific learning objectives for this course are:

* To gain an understanding of how managers use business analytics to formulate and solve business problems and to support managerial decision making.
* To drive value through the alignment of analytic and strategic thinking.
* To become familiar with the processes to move from data to insights
* To learn how to use and apply business analytics software such as SAS text miner to extract insight into unstructured data.

**Assignments:**

**Assignments should be printed, clearly labelled, stapled and handed in at the beginning of class**. **NO LATE ASSIGNMENTS WILL BE ACCEPTED**

**Project and Presentation:**

Each team (composed of 4 students) will complete a business analytics project relating to an unstructured dataset. You will formulate the business problem, gather the data, and conduct text analytics and ‘tell the story’.

**Quizzes:**

No Exams in this class, **expect short quizzes at any point of the class**

**Readings**

* Journal articles from *Harvard Business Review, California Management Review* among others
* Course Pack: *Harvard Business Review*

**Suggested Readings**

* Competing on Analytics, Davenport and Harris, Harvard Business Publishing, 2007
* Analytics at Work, Davenport, Harris and Morison, Harvard Business Publishing, 2010

**Course Evaluation**

* Quizzes 20%
* Assignments 30%
* Class Project 35%
* Class Presentation 5%
* Participation 10%

**Grading Matrix:**

98 and above A+ 83-87 B

93-97 A 80-82 B-

90-92 A- 78-79 C+

88-89 B+ 73-77 C

**Tentative Course Outline**

**Module 1: Introduction to Business Analytics**

Week 1 (9/25): **Strategic Decision Making- Quantitative Approach**

§ Learning Objectives:

* Turn around the lagging performance of product in a competitive market.
* Making strategic decisions using simulated data vs intuition

§Readings

* Data Analytics Simulation: Strategic Decision Making (Course pack)
* Creating Value: The Core (Course pack)

**§Assignment 1- Due 10/2: Executive summary of the analysis of the decision making process in the simulation exercise (max 2 pages)**

Week 2 (10/2): **The Analytics Organizational Climate**

§Learning Objectives:

* Achieving alignment between the technical and business groups in an organization.
* Understanding concept of analytics sophistication, analytical competitor and levels of analytics
* Introducing the Information transformational cycle

§Readings

* Davenport and Harris (2006) Chapter 2, What makes an analytical competitor? (Course pack)
* Kiron et al (2011) Analytics: The Widening Divide, MIT Sloan Management Review (BBlearn)

**§Assignment 2- Due 10/16: Bicycle Rental: You will be given a process map. Determine the metrics which would help the organization align their competitive strategy with the analytics**

Week 3 (10/9): University Holiday

**Module 2: Business Question to the Insightful Story**

Week 4 (10/16): **Framing the problem**

§Learning Objectives:

* Understanding the competitive landscape using frameworks such the five forces model, value framework to identify potential business questions
* Framing the business question

§Readings

* Business Strategy and Objectives (2014) Focus on Porters five forces and value stream. Browse rest, (bblearn)
* Davenport and Kim (2013) Chapter 2, Framing the problem (Course pack)
* Stakeholder analysis (BBLearn)
* TBD

**§Assignment 3- Due 10/23: Conduct a stakeholder analysis on provided case study and generate two business questions which you consider important for the organization.**

Week 5 (10/23): **Solving the Problem**

§Learning Objectives:

* Understand how to solve the problem with unstructured data
* Introduction to ethnographic techniques, including interviews and observation
* Introduction to Thematic analysis

§Readings

* Davenport and Kim (2013) Chapter 3, Solving the problem (Course pack)
* TBD- Ethnography (BBLearn)
* TBD- Thematic analysis (BBLearn)

**§Assignment 4- Due 10/30: Conduct a thematic analysis on the data provided.**

Week 6 (10/30): **Communicating**

§Learning Objectives:

* Introduction to the science and art of story telling
* Selecting appropriate visualizations for the story

§Readings

* TBD: Story telling (bblearn)
* TBD: Visualization (bblearn)
* Davenport and Kim (2013) Chapter 4, Communication (Course pack)
* TBD

**§Assignment 5- Due 11/6: TBD**

Week 7 (11/6): **Visualization and Dash boarding**

§Learning Objectives:

* Selecting appropriate visualizations for the story

§Readings

* TBD: Visualization (bblearn)
* TBD

**§Assignment 6- Due 11/13: TBD**

**Module 3: Computerized Thematic Analysis**

Week 8 (11/13): **Introduction to Text Analytics**

§Learning Objectives:

* Developing a research methodology for the scientific use of analytics in a business context.
* Preprocessing of text

§Readings

* CRISP-DM guide (bblearn)
* TBD

**§**Assignment - TBD

Week 9 (11/20): **Text Analytics**

§Learning Objectives:

* Preprocessing of text

§Readings

* SAS User Guide
* TBD

§Assignments: TBD

Week 10 (11/27): **Text Analytics**

§Learning Objectives:

* Dealing with keywords

§Readings

* TBD

§Assignments: TBD

Week 11 (12/4): Presentations

Week 12 (12/11): Presentations

**Academic Policies**

**Academic Integrity, Plagiarism, and Cheating Policy:**

(http://www.drexel.edu/studentaffairs/community\_standards/studentHandbook/) and refer the students to the section on Student Conduct & Community Standards. You may also wish to re-state the parts of the Handbook regarding Academic Integrity, Plagiarism, and Cheating directly in your syllabus. These policies are highly customizable, so the content can be adapted to your course as appropriate.

Students with Disabilities Statement: http://drexel.edu/oed/disabilityResources/faculty/SyllabusStatement

Student with disabilities requesting accommodations and services at Drexel University need to present a current Accommodation Verification Letter (AVL) to faculty before accommodations can be made. AVL's are issued by the Office of Disability Resources (ODR). For additional information, contact ODR at www.drexel.edu/odr, 3201 Arch St., Street, Suite 210, Philadelphia, PA 19104, 215.895.1401 (V), or 215.895.2299 (TTY).

**Course Add/Drop/Withdrawal Policies:**

Please refer to the following University policies regarding adding, dropping, and withdrawing from courses: http://drexel.edu/drexelcentral/courses/adjustments/Adding%20and%20Dropping%20Courses/ http://drexel.edu/drexelcentral/courses/adjustments/course-withdraw/

**Communicating Revisions to the Course:**

Communicate the prerogative of the faculty member to change the course during the term at his or her discretion. Articulate how and when changes will be communicated to students.