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Office Hours: Tu, Th After Class Hour or By Appointment

BSAD 343, Business Analytics
Spring Quarter 2018, Tu, Th 1:00PM – 2:15PM Schreiber Center 302

Catalog Description

Business analytics leverages the vast amount of streaming data (“big data”) to extract actionable insights and drive better business decisions. It incorporates the best in data engineering, analytics methods, visualization techniques and communication of results. Business analytics rely heavily on statistical and quantitative analysis, predictive and prescriptive models to provide a forward-looking business decision making.

Course Overview

This class introduces students to basic principles in data investigation and modeling, and the fundamentals on how to turn big data into intelligent actionable insights. Equal time is devoted to class presentations and hands-on laboratory sessions. Emphasis is placed on the business analytics process design, use of analytical techniques, data mining methodologies, and data visualization to make evidence-based decisions. Through the use of real business case studies and lab sessions students will develop a comprehensive, innovative, and practical approach to analytics that enables them to tackle diverse and complex business problems.

Course Objectives and Learning Outcomes

1. Explain the key factors differentiating business intelligence from business analytics
2. Frame a problem in a business analytics context to drive better decision making and to gain the competitive edge
3. Identify the major steps in the design of a typical business analytics process
4. Explain core design concepts and methodologies in data modelling, and data management specific to business analytics
5. Describe the big data effect, and its main implications including social and ethical issues
6. Appraise various technological solutions for different data conditions
7. Determine the proper analytics methods for descriptive, predictive, and prescriptive analyses and applications
8. Acquire hands-on experience with various tools for data analytics, data visualization, and smart reporting of results
9. Create a compelling and novel case study depicting some of today's real world examples

Course Materials

Recommended Book: *Business Analytics Principles, Concepts, and Applications* by Marc J. Schniederjans et al, Pearson FT Press, 2014

Optional Book: *Keeping Up with the Quants* by Thomas H. Davenport, Harvard Business Review Press, 2013

Lab Resources

Students will have the opportunity to work with real data and some leading-edge tools in the industry such as R (statistical computing and graphics), Tableau (visual analytics), IBM Watson (natural language cognitive analytics), or Rapid Miner (predictive analytics platform) as needed.

Additional Resources

Additional notes, reading material and on-line references will be shared as needed during class

Special Notes

This class may occasionally deviate from the course outline above. The instructor reserves the right to make changes as needed to the course syllabus. As a courtesy to others and to minimize distractions please turn-off or mute any cellphones, or audible devices.

Laptops and alike are to be used solely for class purposes and only when permitted.

Quinlan School of Business Policies:

Attendance

Class attendance and participation are fundamental components of learning, so punctual attendance at all classes, for the full class meeting period, is expected of Quinlan students.

If you must miss a class or leave early, please notify in advance. You are responsible for any class assignments or requirements missed during an absence.

Make-Up Examinations

Loyola University academic policy provides that tests or examinations may be given during the semester or summer sessions as often as deemed advisable by the instructor. Because Quinlan faculty believe examinations represent a critical component of student learning, required examinations should be taken during the regularly scheduled class period. **Make-up examinations are discouraged.** Exceptions may be granted only by the faculty member or department chair, and only for unavoidable circumstances (illness verified by a signed physician's note, participation in intercollegiate athletic events, subpoenas, jury duty, military service, bereavement, or religious observance). A make-up final examination may be scheduled only with the permission of the appropriate Quinlan Assistant or Associate Dean.

Academic Integrity

All members of the Quinlan School shall refrain from academic dishonesty and misconduct in all forms, including plagiarism, cheating, misrepresentation, fabrication, and falsehood...Plagiarism or cheating on the part of the student in individual or group academic work or in examination behavior will result minimally in the instructor assigning the grade of "F" for the assignment or examination.

For further information about expectations for academic integrity and sanctions for violations, consult the complete Quinlan School of Business Honor Code and Statement of Academic Integrity on the Quinlan website:

<http://www.luc.edu/media/lucedu/quinlanschoolofbusiness/pdfs/Honor-Code-Quinlan-July2012.pdf>

Grading Criteria

Examination and Participation

There will be three in-class exams, including the final. Exams are open notes and laptops are allowed. Exams material coverage are cumulative with more weight given to recent topics. Grading is heavily based on methodology, formulating and steps clarity in solving a problem. Attention is placed on acquiring analytical thinking and problem solving skills in a business environment driven more and more by data and metrics.

Missing an exam without a valid excuse and prior notice will result in a zero grade. The instructor reserves the right to deem an excuse valid or not.

Participation is about prompt attendance, and active engagement during class and lab session reflected by asking questions, maintaining a focus, completing assignments, and exhibiting a genuine interest to learn.

Self-Study

Take-away review problems and reading materials will be assigned. It is highly recommended for students to enhance their learning in class by following up with these self-studies. Homework will not be graded but will be selectively reviewed in class. Periodically there will be a surprise short in-class quiz. These will count as extra credit. Exams and quizzes are based on material covered in class lecture and lab work, and assigned review problems.

Grading

Quizzes	10 (Extra Credit)
Exam 1	30
Exam 2	30
Exam 3	30 (Final or Capstone)
Lab Sessions	10

Course Grading Scale

A	100-93%
A-	92-90
B+	89-87
B	86-83
B-	82-80
C+	79-77
C	76-73
C-	72-70
D+	69-67
D	66-60
F	59 and below

Loyola University Grading Weights

A	4.00
A-	3.67
B+	3.33
B	3.00
B-	2.67
C+	2.33
C	2.00
C-	1.67
D+	1.33
D	1.00
F	0.00

Weekly Course Outline

Class Week	Class Lecture	Lab Work
Week 1 Jan 16,18	Introduction to Business Analytics	Tools and Technology
Week 2 Jan 23,25	Design Concepts & Methodologies	Building A Prototype
Week 3 Jan 30, Feb 1	Business Discovery & Data Sourcing	Working with Open and Social Data ('Big Data')
Week 4 Feb 6,8	Data Preparation & Flow	Practical Studies
Week 5 Feb13,15	Descriptive Analytics	Statistical Measures
Week 6 Feb 20,22	Visual Analytics	Visual Exploration
Week 7 Feb 27, Mar 1	2/27 Review	3/1 Exam 1
Week 8 Mar 6, 8	<u>Spring Break</u>	<u>Spring Break</u>
Week 9 Mar 13,15	Predictive Analytics	Modeling & Forecasting
Week 10 Mar 20,22	Prescriptive Analytics	Remedies & Solutions
Week 11 Mar 27,29	Simulation, Risks & Decision Modeling	What-If & Sensitivity Analysis
Week 12 Apr 3,5	4/3 Review	4/5 Exam 2
Week 13 Apr 10,12	Industry Trends & Case Study	A Sample Walk-Thru
Week 14 Apr 17,19	Visualization & Smart Reporting	Charts, Metrics, and Scores
Week 15 Apr 24,26	Data Management, Governance & Ethics	Practical Studies
Week 16 May 1 9:00 – 11:00 am	Final Exam 3	