



FLORIDA
ATLANTIC
UNIVERSITY

COURSE CHANGE REQUEST Graduate Programs

Department Information Tech. and Operations Mgmt.
College Business

UGPC Approval _____
UFS Approval _____
SCNS Submittal _____
Confirmed _____
Banner Posted _____
Catalog _____

Current Course Prefix and Number ISM 6404

Current Course Title
Introduction to Business Analytics and Big Data

Syllabus must be attached for ANY changes to current course details. See Guidelines. Please consult and list departments that may be affected by the changes; attach documentation.

Change title to:

Change description to:

Change prefix

From: _____ **To:** _____

Change prerequisites/minimum grades to:

No prerequisite is required.

Change course number

From: _____ **To:** _____

Change corequisites to:

Change credits*

From: _____ **To:** _____

Change registration controls to:

Change grading

From: _____ **To:** _____

Please list existing and new pre/corequisites, specify AND or OR and include minimum passing grade.

*Review Provost Memorandum

Effective Term/Year for Changes: Spring 2019

Terminate course? Effective Term/Year for Termination:

Faculty Contact/Email/Phone Dr. J. Goo/jgoo@fau.edu/7-2352

Approved by

Department Chair _____

College Curriculum Chair _____

College Dean _____

UGPC Chair _____

UGC Chair _____

Graduate College Dean _____

UFS President _____

Provost _____

Date

11/4/2018

11/14/2018

11/28/18

Email this form and syllabus to UGPC@fau.edu one week before the UGPC meeting.

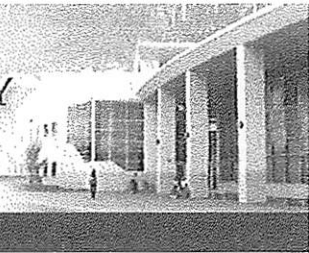
GRADUATE COLLEGE

DEC 05 2018

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FLORIDA ATLANTIC UNIVERSITY



ISM 6404 - 002

CRN: 13971

Introduction to Business Analytics and Big Data

Fall 2018

ED 337

Wednesday 6:30 - 9:20 pm

COURSE LOGISTICS

Professor Information

Instructor: Dr. Jahyun Goo
Office: FL 218, Boca Campus
Email: jgoo@fau.edu
Phone: 561.297.2352

Office Hours

M 2:00 pm ~ 4:00 pm or by appointment

Required Text and Materials

Lecture:

- Business Intelligence, Analytics, and Data Science: A Managerial Approach, 4th edition by Sharda, Delen, and Turban, Prentice Hall, 2017, Print ISBN: 9780134633282, eText ISBN: 9780134635316

Lab:

- Problem-Solving Cases in Microsoft Access and Excel by Monk, Brady & Mendelsohn, 15th Annual Edition, Cengage Learning, 2017, ISBN: 9781337101332

Course Description

This course provides an understanding of the business intelligence processes and techniques used in transforming data to knowledge and value in organizations. Students also develop skills to analyze data using generally available tools (e.g., EXCEL).

Course Prerequisites and Credit Hours

This course is 3-credit and serves as a core/required course for the Business Analytics concentration. No prerequisite is required.

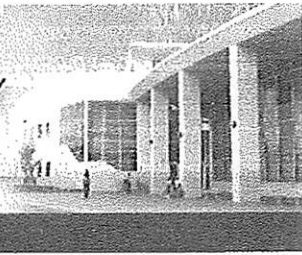
Supplemental Course Description

This course expects a working knowledge of basic mathematics (high school algebra), and the ability to use simple computing tools (e.g., passing familiarity with EXCEL and ACCESS). Students should have access to EXCEL spreadsheet and ACCESS database software (comes with Microsoft

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Office). The students are assumed to be familiar at an intuitive level with general business practices of collecting, storing, and using data. However, these subjects will be reviewed in detail at the beginning of the course as a refresher for students who may have forgotten some of the details.

Course Structure

This is a hybrid course with required F2F components and online components hosted in Canvas. Hybrid courses afford students flexibility by allowing them to complete some work around their own personal schedule while supporting face-to-face (F2F) interaction during the scheduled in-class sessions. These courses require students to exercise self-discipline by completing the required assignments on time and without regular reminders. Please see the course schedule under Appendix B for all required **F2F sessions** (on grey background) and **online sessions** (on blue background).

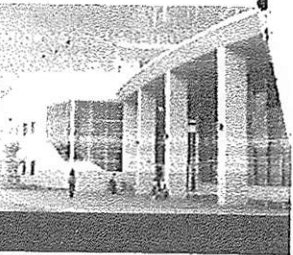
Course Learning Objectives

Many organizations have a wealth of data residing in their databases, and generate additional valuable data that is often not captured. Business intelligence (BI) is the process of collecting and turning this resource into business value. The class format consists of discussion of a large number of articles/cases, presentations by business professionals, class lectures and discussions on data modeling and design, and hands-on work with Excel. The Learning Outcomes for this course are the following:

- Fundamental concepts about business intelligence such as use data analysis techniques to make better business decisions, data preparation and simple tools for solving data mining problems.
- Communications skills by writing an executive memorandum that presents the business problem and analytical technique used, the summary of the results in terms of actionable information, and the recommendation for decision making.
- Critical thinking that analyzes the results, estimate the errors, costs, and accuracy of the model, evaluate the technique effectiveness
- Critical thinking to answer a business question or solve a business problem by: choosing the most appropriate data and analytical techniques, and by offering the recommendation for decision making

Grading Scale

My grading philosophy is that professors do not "give" grades. Students "earn" grades. I take grading *very seriously*. I *thoughtfully* grade each assessment item on the assessment sheets. I am morally obligated to clearly define expectations (which I do on a very detailed syllabus and detailed assignments), to help you as much as I can before your assignments are due, and to grade the actual performance using the assessment sheets. All that said, I have great empathy



for college students, having been one myself for nine years! I care about your learning. No one would be happier than I to see all students *earn* high grades! In this class, the letter grades use the following scale on the total point earned from a multitude of assessments:

Grades are rounded up to the nearest tenth of a point.

Grade Percentage Breakdown	
Mid-term Exam I, II	30%
Final Exam	20%
Data Visualization	
Project	30%
Lab Assignment	10%
Online Session	
Discussions	10%
Total	100%

Final Grade Assignment		
A	100	– 94.00
A-	93.99	– 90.00
B+	88.99	– 87.00
B	86.99	– 84.00
B-	83.99	– 80.00
C+	78.99	– 77.00
C	76.99	– 74.00
C-	73.99	– 70.00
D+	69.99	– 67.00
D	66.99	– 64.00
D-	63.99	– 60.00
F	59.99	– 0.00

Because everyone will be graded in exactly the same way, in fairness of other students, the instructor cannot and will not arbitrarily move the grading scale to accommodate individuals' specific needs or desires. All requests for an unearned extra or "bonus" point at the end of the semester in order to move you into the next grade category will be rejected.

COURSE COMPONENTS

LECTURE SESSION

Lecture Exams

Three (3) lecture exams will be administered throughout the semester (see Course Schedule). (The three lecture exams have a yellow background.) All three exams are online. I will expand more on your online exams in the next paragraph. Exams will be given in a multiple-choice



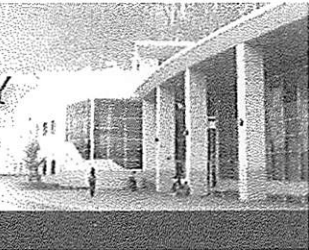
format. They are comprehensive, covering all the assigned reading and lecture notes, but non-accumulative. Note that material presented in class will supplement the assigned reading. Therefore, class attendance and good note taking are essential tactics for success.

Online Exams:

- Three lecture exams are to be proctored online via Honorlock.
- Online exam expectations are as if you are physically in class taking the exam. This includes no communicating (e.g. texting, talking, email), no Internet surfing, no use of multiple devices (e.g. 2nd laptop, tablet, or phone), no cheating, beginning on time, and completing the exam within the exam period.
- Because I will base off of the assumption that the online exam is open book, each exam on the blackboard will be managed by a certain time limit. That is, you won't have enough time to finish your exam when you study and search for the answers during the exam period. So it would be mistaken if you think you can and thus start taking your exam with such plan. I strongly recommend you to avoid falling into the trap of doing such. Instead, be fully prepared before you begin to take your online exam. Please know that the time management is one of critical pieces for succeeding in your short, timed online exams and is your responsibility.
- Online exams carry all the risks of technology. If you experience technological difficulties during the exam, contact the FAU HelpDesk (<http://helpdesk.fau.edu>), Honorlock Technical Support (contact information available on Canvas), and the instructor via email (jgoo@fau.edu) immediately, and it will be investigated as quickly as possible. Appropriate responses will be sent to you via e-mail.

Allowed & Not-Allowed During the Proctored Exam:

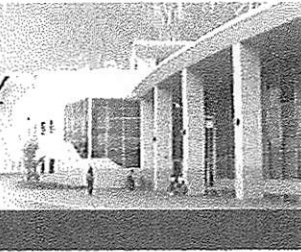
- **Actions considered to be violations during an online exam:**
 - Using your computer, phone, or tablet to communicate with anyone during the exam
 - Exception: Talking on the phone with tech support or verbally telling someone you are taking a test and will call them back are okay
 - Having other people in the room help you with the exam in any way
 - Exception: None
 - Leaving the room for more than 5 mins once the exam has been started
 - Exception: Using the restroom is permitted
 - Searching or trying to look up answers online through the use of a search engine or any other non-approved website using your computer or other electronic device during the exam
 - Exception: None



- Any of other form of academic dishonesty listed under FAU Academic Code of Integrity: <https://www.fau.edu/ctl/AcademicIntegrity.php>
 - Exception: Using your book, notes, excel, calculator, and any other approved course-related material
- Using additional electronic devices during the device (other than the desktop, laptop, or tablet computer you are using to take the exam).
 - Exception: If you use your phone or computer to contact tech support
- **Actions allowed during an online exam:**
 - Use of Notes (written, printed, or electronic), course material (written, printed, or electronic), & textbook (written, printed, or electronic) are allowed.
- Please read the information posted on Canvas for more information on how the proctoring system works.
- There will also be a non-graded Honorlock practice exam available on Canvas till the first midterm exam so that you can use to test/try out the proctoring software so you can feel comfortable with the process before you use it for the exams.

Technical Problem Resolution Procedure:

- In the online environment, there is always a possibility of technical issues (e.g., lost connection, hardware or software failure). Many of these can be resolved relatively quickly, but if you wait until the last minute before due dates, the chances of these glitches affecting your success are greatly increased.
- Please plan appropriately. Should a problem occur, **you must take immediate action to document the issue** so I can verify and take appropriate action regarding a resolution.
- Please take the following steps should a problem occur:
 1. If you can, take a screen shot or video of the monitor when the problem occurred (e.g. take a picture with your phone, use the Print Screen functionality and save the Print Screen as a .jpg file).
 2. Contact the appropriate Technical Support for your issue:
 - a) Honorlock Technical Support (contact information available on Canvas)
 - i) Make sure you get a ticket number and/or email confirmation
 - b) Canvas: complete a Help Desk ticket at <http://www.fau.edu/helpdesk>. Make sure you complete the form entirely and give a full description of your problem so the Help Desk staff will have the pertinent information in order to assist you properly. This includes:
 - i) Select "Canvas (Student)" for the Ticket Type.
 - ii) Input the Course ID.
 - iii) In the Summary/Additional Details section, include your operating system, internet browser, and internet service provider (ISP).



- iv) Attach screen shots, if available.
3. Send an email to jgoo@fau.edu to notify me of the problem. Include all pertinent information of the incident (Ticket Number and screen shots/video documenting the technical problem).
4. If you do not have access to Canvas, send an email to the instructor (jgoo@fau.edu) with all pertinent information of the incident (Ticket Number and screen shots/video documenting the technical problem).
5. If you do not hear back from Technical Support, the Help Desk, or the instructor within a timely manner (48 hours), **it is your responsibility to follow up with the appropriate person until you find a resolution.**

Discussion Forum in the Online Module (Session)

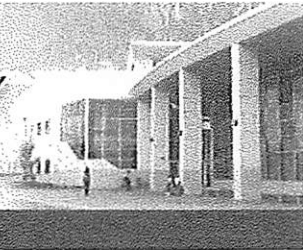
The online module discussion forum requires at least 3 posts—one your own response to instructor-led opening thread (“Original”) and two responses to peers’ Originals (“Replies”) — to be eligible to receive credits. The posts should be entered directly into the discussions, not in the form of an attachment. Attachments should be held to be minimum and used only if needed for illustration, e.g., chart, image, or table.

Your Original post must be 100-200 words in length. The remaining two Replies are to be 50-100 words in length. They must contribute to the conversation through supportive addition or critique. When the responses are of the latter, they must argue the issue, never the author. Follow up responses can be posted until the session closes. The Grading Rubric available in the Files section of the Canvas will serve as a guide.

Time Window of Online Module (Session)

As can be found in the course schedule, the duration of online module is one week. Each session kicks off on every Wednesday of the week and ends on Tuesday in the following week. I carefully designed such that the time window of online session contains the weekend so students could balance the workloads between weekdays and the weekend. Hope you find this flexibility beneficial, and leverage the weekend time to get the required academic tasks done.

Speaking of the required activities in online module, you are expected to participate in the topic discussion forum by posting one response of your own to my opening thread (called “Original”) and your two replies to other students’ Original response to my thread (called “Replies”), at least. As scheduled, each discussion forum runs over two sessions (modules). With the built-in flexibility, it is natural to expect that many of your original posts would be quite delayed to the end of the time window for each forum, which would result in less time for co-learners to think through and respond to, and thus less interaction. To rectify this situation and bring more active participation to the discussion forum, I would like to set a specific deadline for your *Original post*, which is end of first session in the two-session period of each discussion forum.



For example, the first topic discussion forum is scheduled to run over the session 10 and 11. So your original post deadline would be the last day of the session 10 (Oct 23). So the entire period of session 11 can be used for Replies to others' original posts. The *Original* post after the deadline will be considered as late and graded as such.

LAB SESSIONS

Lab Class

Lab classes are designed to understand the conducts of business analysis using Excel and Access. Always bring the appropriate text and (if applicable to you) file transfer means, such as a thumb drive, to lab. You are expected to finish any cases (except tutorials) not finished in class on your own, so that you are prepared for the next lab's lesson. Please note that **lab time is not meant to be used to check your email, watch YouTube videos, update Facebook, or work on your assignments for this or any other class.**

Assignment – Data Visualization Project

As a semester group project, you will be involving in a data visualization project using the dataset provided. It will be done as group so that you can achieve something together. The addendum to this project is explained in Appendix A in detail.

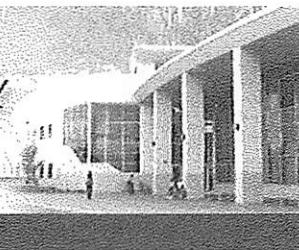
Assignment – Excel Case

Individuals will apply what they learned during the lecture class to the cases given along with data throughout the lab sessions. Please download the data files you will be working with the cases from Canvas.

Although learning expected to occur individually, working and learning together is allowed and encouraged in order to effectively tackle the lab cases. Thus, this Excel case is a group assignment; ***Group submission is required.*** Students are asked to submit a **summarized report of the analysis as a group** using a memorandum template available in word document, along with an Excel file created during the case analysis. Both Word and Excel files must be submitted via Canvas as attachment. Please refer to "Submission Guidelines" below for detail.

General Submission Guidelines

1. ***Due Date.*** All assignments are due before class on the due date indicated in the course outlines.
2. ***Canvas Submission.*** Lab assignments are to be submitted via Canvas. I have created the Excel Case Assignment Group for the submission of Excel case assignment. Please sign up on your own group with your group members before submitting your assignment. You are limited to being in only one group in this set.



Additional Course Policies

Missing Exams

There are no make-up exams for this course, except missing exams were due to the participation in University approved activities or legitimate class absence. However, even if you are unable to take an exam due to such excused cases, you must inform the instructor of that fact **before** the day of the exam and arrange for a make-up to be administered before the graded exam is returned to the class. Any student requiring a make-up has to document his/her excuse (e.g., a letter from a physician written on the physician's letterhead). Please note that ***in no event will a make-up test be given after the graded exam is reported to the class.***

Late Assignments

No assignments will be graded because of one's failure to follow instructions, including, but not limited to, not having everything required or submitting the wrong file. The due date of each case is a week after the last session of each case as scheduled in the course outline unless mentioned otherwise. Because you will have one more week to work on each case after the official closure, ***late assignment will not be accepted—no exception!***

Attendance Policy

Students are expected to attend all of their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance. Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations or participation in University approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence

Course Outline

See the Appendix B



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Code of Academic Integrity Policy Statement

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see University Regulation 4.001.

Disability/Accessibility Policy Statement

In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses – Boca Raton, Davie and Jupiter – however disability services are available for students on all campuses. For more information, please visit the SAS website at <http://fau.edu/sas/>

Counseling and Psychological Services (CAPS) Center

Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual counseling, support meetings, and psychiatric



services, to name a few – offered to help improve and maintain emotional well-being. For more information, go to <http://www.fau.edu/counseling/>

Religious Observance Accommodation

In accordance with rules of the Florida Board of Education and Florida law, students have the right to reasonable accommodations from the University in order to observe religious practices, observances, and beliefs with regard to admissions, registration, class attendance and the scheduling of examinations and work assignments. For further information, please see FAU Regulation 2.007 at: <http://www.fau.edu/regulations/chapter2/Reg%202.007%208-12.pdf>

University Approved Absence Policy Statement

In accordance with rules of the Florida Atlantic University, students have the right to reasonable accommodations to participate in University approved activities, including athletic or scholastics teams, musical and theatrical performances and debate activities. It is the student's responsibility to notify the course instructor at least one week prior to missing any course assignment.

College of Business Minimum Grade Policy Statement

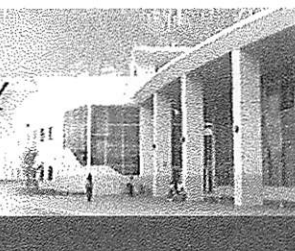
The minimum grade for College of Business requirements is a "C". This includes all courses that are a part of the pre-business foundation, business core, and major program. In addition, courses that are used to satisfy the university's "Writing Across the Curriculum" and Gordon Rule math requirements also have a minimum grade requirement of a "C". Course syllabi give individualized information about grading as it pertains to the individual classes.

Incomplete Grade Policy Statement

A student who is passing a course, but has not completed all work due to exceptional circumstances, may, with consent of the instructor, temporarily receive a grade of incomplete ("I"). The assignment of the "I" grade is at the discretion of the instructor, but is allowed only if the student is passing the course.

The specific time required to make up an incomplete grade is at the discretion of the instructor. However, the College of Business policy on the resolution of incomplete grades requires that all work required to satisfy an incomplete ("I") grade must be completed within a period of time not exceeding one calendar year from the assignment of the incomplete grade. After one calendar year, the incomplete grade automatically becomes a failing ("F") grade.

Withdrawals



Any student who decides to drop is responsible for completing the proper paper work required to withdraw from the course.

Grade Appeal Process

A student may request a review of the final course grade when s/he believes that one of the following conditions apply:

- There was a computational or recording error in the grading.
- Non-academic criteria were applied in the grading process.
- There was a gross violation of the instructor's own grading system.

The procedures for a grade appeal may be found in Chapter 4 of the University Regulations.

Disruptive Behavior Policy Statement

Disruptive behavior is defined in the FAU Student Code of Conduct as "*... activities which interfere with the educational mission within classroom.*" Students who behave in the classroom such that the educational experiences of other students and/or the instructor's course objectives are disrupted are subject to disciplinary action. Such behavior impedes students' ability to learn or an instructor's ability to teach. Disruptive behavior may include, but is not limited to: non-approved use of electronic devices (including cellular telephones); cursing or shouting at others in such a way as to be disruptive; or, other violations of an instructor's expectations for classroom conduct.

Faculty Rights and Responsibilities

Florida Atlantic University respects the right of instructors to teach and students to learn. Maintenance of these rights requires classroom conditions which do not impede their exercise. To ensure these rights, faculty members have the prerogative:

- To establish and implement academic standards
- To establish and enforce reasonable behavior standards in each class
- To refer disciplinary action to those students whose behavior may be judged to be disruptive under the Student Code of Conduct.



Appendix A. Data Visualization Project

Purpose

The way we digest information is evolving, and for good reason — the sheer amount of data we accumulate and compile each day is staggering. In fact, according to IBM, 90% of data in the world today has been created only within the last two years. With this kind of growth, sometimes static numbers or a simple rundown of statistics can fall flat. That's why people from data scientists to artists are using visuals to relay information.

The purpose of this semester project, therefore, is to provide hands-on experience designing, performing visualization in a way to tell a story. I will get you up to speed with three visual analytics projects using Tableau during the sessions 5 and 6 to serve as a guide. You may like to develop your visual project similar to those. I also explain what I meant by the story in a separate section below in detail to help make sense. In addition, this project is to offer an opportunity to learn what constitutes the best visual practices by evaluating the data visualization from others and offer creative comments for possible improvement. Your project should provide a concrete visualization of topic/problem/issue via a novel, creative storytelling, and should prove actually *seeing* information can be effective, as well as really cool. All worksheets in your Tableau project need to be properly documented with caption, including a relevant title with an informative question or inquiry that would be addressed by that worksheet (refer to my projects for hint).

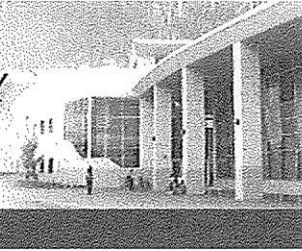
Instructions

Projects will be carried out by a team of up to 3 people and thus the group grade adjustment policy will apply. Of the courtesy of Tableau, I have provided you with the list of sample datasets with a brief description for each dataset, which is available to download from the Data Visualization Project module. So please check it out in Canvas.

While the instructor randomly assigns you in a group for this project, each group, once formed, may choose a tentative topic of your visualization with a specific dataset of your choice from the list of sample datasets. Thus, each group is asked to indicate an area (e.g., lifestyle, government, sports, etc.) you would be interested in and the name of a dataset you will be working on in the Group and Topic Assignment for the Data Visualization Project sign-up page, which is available under the session 2. In this way the topic and the dataset of your choice can be parked at the first come first served basis and avoided a possible overlap. To help you manage the timeline of your project, I have set three important milestones with deliverables required, respectively in a separate section below.

Deliverables/Schedule

- Project Proposal: due on Wed 10/10 (end of day)
- Final Project Presentation: Nov 21 or Nov 28



Project Proposal

As a first step you should create a project proposal (in the discussion board). The proposal should describe 1) the group members along with job allocation of each member specified, 2) a short (1 to 2 paragraph) description of the visualization you plan to address (i.e., story), 3) the dataset used, 4) current progress, and 5) estimated timelines. Again, you may like to check the example provided in the Data Visualization Project module in Canvas for the required format and the contents. Take advantage of this proposal as a chance to get feedback on the direction of the project from the rest of the class!

Final Project Presentation

Each group will be presenting the final visualization in class. Each group is asked to do a presentation (up to 20 minutes) for your visualization. The final deliverable will be an in-class presentation telling the proposed story using a dashboard in Tableau, your published Tableau dashboard in Tableau Public, or PowerPoint. Please refer to the example provided in the Data Visualization Project module in Canvas for the format and the specific deliverables required.

Every class participant will evaluate your presentation using the rubric provided.

Files to be submitted to Canvas:

- 1) Your Tableau file in .twbx format
- 2) URL to access your Tableau work in Tableau Public
- 3) PPT presentation (if used)

Final Project Peer Evaluation and Group Contribution Form

Two peer evaluations will be administered:

- 1) Each individual student must submit the peer evaluation on the visualization.
- 2) The group contribution form as group needs to be submitted.

Please submit both files via Canvas. The due date of both items is Nov 30.

Your work will be evaluated with the grading rubric available under the Data Visualization Project module in Canvas. So please refer to the rubric before you come up with a final version of your presentation. 50% of grading on the data visualization will come from your peer evaluation. Peer grading worksheet will be handed out before the presentation. Because this is a peer evaluation, you do not need to evaluate your own visualization presentation.

Storytelling

Stories bring life to data and facts. They can help you make sense and order out of a disparate collection of facts. They make it easier to remember key points and can paint a vivid picture of what the future can look like. Stories also create interactivity-people put themselves into stories and can



relate to the situation. As a result, they become more engaged and better understand the information. I have included some examples of added interactivity with Parameters in Tableau (3) lab.

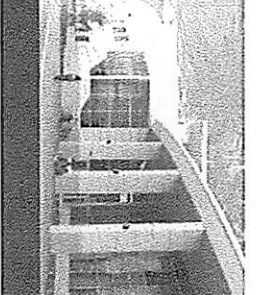
So what does it make a good story? Most people can easily rattle off their favorite film or book. Or they remember a funny story that a colleague recently shared. Why do people remember these stories? Because they contain certain characteristics. First, a good story has great characters. In some cases, the reader or viewer has a vicarious experience where they become involved with the character. The character then has to be faced with a challenge that is difficult but believable. There must be hurdles that the character overcomes. And finally, the outcome or prognosis is clear by the end of the story. The situation may not be resolved-but the story has a clear endpoint.

For this project, think of your analysis as a story using a story structure. When crafting a data-rich story, the first objective is to find the story. Who are the characters? What is the drama or challenge? What hurdles have to be overcome? And at the end of your story, what do you want your audience to do as a result? Once you know the core story (*as manifested in our three labs such as a fictional music store's online sales, your friend Harry's foodie trip, and university's fundraising, respectively*), craft your other story elements: define your characters, understand the challenge, identify the hurdles, and crystallize the outcome or decision question (*as articulated with a specific question or desired information in each worksheet of Tableau labs*).

Make sure you are clear with what you want people to do as a result. This will shape how your audience will recall your story. With the story elements in place, write out the storyboard (*i.e., dashboard in Tableau*) which represents the structure and form of your story. Although it's tempting to skip this step, it is better first to understand the story you are telling and then to focus on the presentation structure and form. Once the storyboard is in place, the other elements will fall into place. The storyboard will help you to think about the best analogies or metaphors, to clearly set up challenge or opportunity, and to finally see the flow and transitions needed. The storyboard also helps you focus on key visuals (graphs, charts, and graphics) that you need your users to recall.

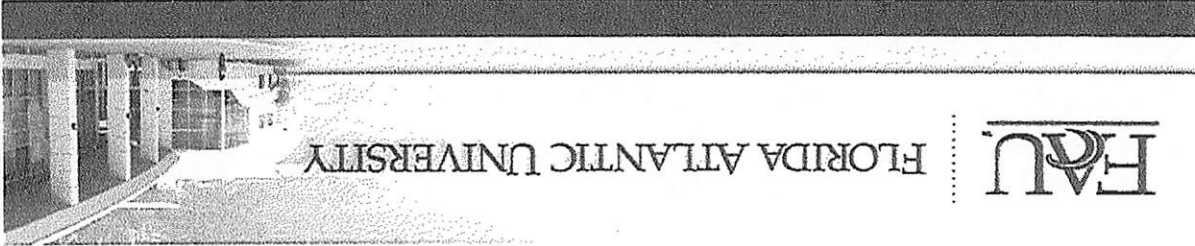
In summary, don't be afraid to use data to tell great stories. Being factual, detail oriented, and data driven is critical in today's metric-centric world, but it does not have to mean being boring and lengthy. In fact, by finding the real stories in your data and following the best practices, you can get people to focus on your message-and thus on what's important. Here are those best practices:

1. Think of your analysis as a story-use a story structure.
2. Be authentic-your story will flow.
3. Be visual-think of yourself as a film editor.
4. Make it easy for your audience and you.
5. Invite and direct interaction.



Appendix B: Course Outline

Week	Lecture			Lab	
	Date	Topic	Reading	Topic	
1	8/22	Syllabus & Introduction			
2	8/29	BA Overview, Data warehousing	Chs. 1, 2 & 3		
3	9/5	MIDTERM EXAM I (Canvas Honorlock)			
4	9/12	Business analytics with OLAP, and visualization, Business performance monitoring and dashboards	Chs. 2 & 3	Visual Analytics with Tableau (0): Getting Started Visual Analytics with Tableau (1): Music Sales	
5	9/19 ~ 9/25 (Online)			Visual Analytics with Tableau (2): Foodie Trip Visual Analytics with Tableau (3): Fundraising	
6	9/26 ~ 10/2 (Online)				
7	10/3	Emerging BA technologies and Challenges	Chs. 3, 7 & 8		Data Visualization Project Proposal Due Date: 10/10
8	10/10	MIDTERM EXAM II (Canvas Honorlock)			
9	10/17			Decision making with Scenario Manager	Group Assignment: Case 10 Due Date: 10/31



10	10/24 ~ 10/30 (Online)	Big Data and Analytics - Concept I	Chs. 4, 5, 7 & 8	Canvas Discussion for Sessions 10-11
11	10/31 ~ 11/6 (Online)	Big Data and Analytics - Concept II	Chs. 4, 5, 7 & 8	
12	11/7 ~ 11/13 (Online)	Big Data and Analytics - Techniques I	Chs. 4, 5, 7 & 8	Canvas Discussion for Sessions 12-13
13	11/14 ~ 11/20 (Online)	Big Data and Analytics - Techniques II	Chs. 4, 5, 7 & 8	
14	11/21	Data Visualization Presentation (In-Class)		Peer Evaluation on Data Visualization Project Due Date: 11/30
15	11/28	Data Visualization Presentation (In-Class)		Group Contribution Form Due Date: 11/30
16	12/5	Reading Day (NO CLASS)		
17	12/12	FINAL EXAM (Canvas Honorlock)		

Note: The course outline is subject to change, depending on class pace and needs.

The instructor reserves the rights to make any changes needed.

Students are responsible for being familiar with any revisions even if they were absent from the class on the days changes were announced.