Course Syllabus

BusinessAnalytics-Spring2023.docx (https://usflearn.instructure.com/courses/1790572/files/146501996?wrap=1) (https://usflearn.instructure.com/courses/1790572/files/146501996/download?download_frd=1)

ISM 7406: Business Analytics (3 Credits)

Instructor:	Wolfgang Jank	*E-Mail:*	wjank@usf.edu
Term:	Spring 2023	*Dates:*	1/7, 1/21, 2/4, & 2/18/2023.
Delivery Method:	Online	*Location:* Teams Session (link in Canvas)	8:30am-1:00pm
Course Prerequisites:	None		

Instructor Contact Information:

The best way to contact me is through email. You can also contact me by phone:

- 974.6762

First Week Attendance Policy:

Registration is handled by DBA Staff.

University Course Description:

A research course for executives that presents an overview of data analytics techniques as well as examples of analytics research in business. A variety of analytics technique including structured data, unstructured data and big data will be discussed..

Course Structure:

Classroom session: Class meetings include lectures, discussions, team presentations and in-class projects.

Assignments: Assignments will be structured around readings, used to develop team presentations, and analytics exercises. Participants will also submit entries to the international Kaggle Competition for data analytics.

Course Objectives:

This course focuses more on the implementation of analytical concepts for solving real-world data science projects (rather than the discussion of new concepts and methods). In fact, this course has two objectives:

1. to provide a high-level appreciation of analytics via the discussion of case studies and students' own experiences on what it takes for a company to become an analytical competitor
2. to expose students to some real-world challenges of analytics via hands-on participation & implementation of an analytics project – in the form of a world-wide data science competition

Learning Outcomes:

Upon completing this course, the participant should be able to:

- Identify an underlying analytical structure in a seemingly complex and amorphous decision problem
- Understand the trade-offs involved in the decision
- Understand the role of uncertainty and risk in the decision-making process
- Analyze available data to understand relationships among variables and to create predictions
- Use available computing technology to arrive at optimal solutions.

Required Course Materials:

We will use two different books for this course. The books will be used simultaneously in that one book covers strategic aspects of business analytics from a high-level point of view; the other book has more of an operational flavor in that it conveys hands-on ideas for data-modeling. The two books are

- *Business Analytics for Managers by Jank, Springer, 2011 (ISBN 978-1-4614-0405-7).*
- *Competing on Analytics by Davenport and Harris, Harvard Business School Press, 2007 (ISBN 142-2-1033-23)*

Other materials: Download papers, slides, and assignments from Canvas.

Interactive Polling

In addition to the above two books, we will also make extensive use of Poll Everywhere during lectures and activities. For more information, go to **http://polleverywhere.com (http://polleverywhere.com)**

Data Mining Software

We will use the software R Commander for analyzing and mining our data. R Commander is based on the open-source project R. R is free and it grows much faster than any commercial software solution. R is one of the most powerful and popular software solutions for mining business data. In fact, large

is one of the most powerful and popular software solutions for mining business data. In fact, large analytical companies such as Google or AT&T use R. R is also becoming more and more popular among government agencies (such as the DOD). R is powerful, yet it is free – this combination makes it a winning proposition for many companies, especially during times of tightening budgets and financial stress.

Installing the software R Commander: Please see the course Module 0 for instructions on how to download and install R Commander

Information on the data visualization software *Tableau* is also presented in an optional Canvas module. We will not be covering the software in the course but have added the links owing to past student interest.

Assignments and Activities

Team Research and Discussion

Every meeting, a different team (or set of teams) will take the lead discussing select chapters from the text “Competing on Analytics.” Please refer to the detailed weekly schedule at the end of this syllabus. The team(s) will prepare a short presentation (based on a set of questions that I will distribute) and present their answers and solutions in class. While the presentation is primarily lead by one team of students, the remaining class is also encouraged to share additional/alternate views.

Quizzes & Practice Quizzes

Several times throughout the course, individual assignments/quizzes will be due. The primary purpose of these assignments is for students to have the opportunity to practice the concepts learned in class, and to implement them using real data and real software. Individual assignments are expected to be solved rather quickly and not to consume much of your time. Careful participation during the in-class projects will allow you to solve the individual assignments more efficiently.

Analytics Project

Kaggle Data Science Competition: The centerpiece of this course will be for you to participate in a data science competition. The competition is hosted by Kaggle (www.kaggle.com) which is an online community of data scientists and which hosts private and public data science competitions. The goal of

community of data scientists and which hosts private and public data science competitions. The goal of this competition is to gain hands-on experience with the execution and implementation of real data science projects. As part of this analytics project, you will have several quizzes and online discussions to complete over the progression of this course.

Attendance & Class Participation

Effective participation consists of not only responding to questions raised by the instructor but also asking thoughtful questions and responding to contributions from your fellow-students.

Quality of participation is more important than quantity. However, you will not earn credit in this component, if you rarely speak in class. Quality of participation includes:

- Evidence of reading and prior analysis;
- Relevance of comments;
- Ability to listen and relate to input from other students;
- Ability to lead discussion into previously unexplored areas;
- Ability to admit error;
- Ability to intellectually interact with other students (and not just the instructor).

Special emphasis will be placed on participation during the in-class projects.

Course Policies: Grades

Policies specific to this course are as follows:

1. *Activities*: All course activities will be conducted via Canvas, accessed at **https://my.usf.edu(Links to an external site.) (https://my.usf.edu/)**

2. *Grading:* This course follows the standard DBA grading policy, with satisfactory work completed on time receiving a grade of A. Work that is not deemed sufficiently developed to be considered satisfactory must be revised to a satisfactory level. In the event such revisions run past the end of the

satisfactory must be revised to a satisfactory level. In the event such revisions run past the end of the semester, a grade of B will be awarded upon satisfactory completion.

3. *Academic Integrity:*The course subscribes to all academic integrity requirements set forth by the University of South Florida.

Policies applying to all DBA courses, the Muma College of Business and/or the University of South Florida can be found under **Student (https://usflearn.instructure.com/courses/1382750/pages/standard-course-policies)** Support in Canvas.

USF Institutional Policies

See USF Graduate Academic Policies- **http://www.grad.usf.edu/policies_sect7_full.php (http://www.grad.usf.edu/policies_sect7_full.php)**

Course Technology and Student Support

Academic Accommodations:

Students with disabilities are responsible for registering with Students with Disabilities Services (SDS) in order to receive academic accommodations. For additional information about academic accommodations and resources, you can visit the SDS website at **http://www.usf.edu/student-affairs/student-disabilities-services/ (http://www.usf.edu/student-affairs/student-disabilities-services/)** .

Academic Support Services:

The USF Office of Student Success coordinates and promotes university-wide efforts to enhance undergraduate and graduate student success. For a comprehensive list of academic support services available to all USF students, please visit the Office of Student Success website at- **http://www.usf.edu/student-success/ (http://www.usf.edu/student-success/undergrads/)**

Canvas Technical Support:

If you have technical difficulties in Canvas, you can find access to the canvas guides and video resources in the “Canvas Help” page on the homepage of your canvas course. You can also contact the help desk by calling 813-974-1222 in Tampa or emailing **help@usf.edu (mailto:help@usf.edu)**

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Calendar and Assignments

Note: If syllabus dates do not match Canvas dates, Canvas dates reflect official course dates.

Date	Details
Fri Jan 6, 2023	Quiz M0 - Getting Started Quiz
	Discussion Topic Kaggle Project Discussion - Data Challenges Encountered
	Quiz Kaggle Project - Quiz 1
Fri Jan 20, 2023	Quiz Module 1 Quiz
	Quiz Practice Quiz 1
	Assignment Submit Team Presentation Slides (Team 1)
Sat Jan 21, 2023	Assignment Submit Team Presentation Slides (Team 2)
Fri Feb 3, 2023	Discussion Topic Kaggle Project Discussion - Your First Kaggle Submission
	Quiz Kaggle Project - Quiz 2
	Quiz Module 2 Quiz
	Quiz Practice Quiz 2

	Quiz Practice Quiz 2
	Assignment Submit Team Presentation Slides (Team 3)
Sat Feb 4, 2023	
	Assignment Submit Team Presentation Slides (Team 4)
	Quiz Kaggle Project - Quiz 3
Fri Feb 17, 2023	Quiz Module 3 and 4 Quiz
	Quiz Practice Quiz 3
	Assignment Submit Team Presentation Slides (Team 5)
Sat Feb 18, 2023	Assignment Submit Team Presentation Slides (Team 6)
	Assignment Please submit your course evaluations
	Assignment Team Research and Presentation
	Discussion Topic Kaggle Project Discussion - Data Challenges Solved and C
Fri Feb 24, 2023	
	Quiz Kaggle Competition - Your Scores and Leaderboard Position

Specific due dates can be found following the syllabus description. Detailed descriptions of all activities can be found under in the course modules. *Should the Canvas date differ from the debate in this syllabus, the Canvas date will be the official date.*

Course Summary:

Date	Details	Due

Date	Details	Due
Fri Jan 6, 2023	M0 - Getting Started Quiz (https://usflearn.instructure.com/courses/1790572/assignments/13254957)	due by 11:59pm
Fri Jan 20, 2023	Kaggle Project Discussion - Data Challenges Encountered (https://usflearn.instructure.com/courses/1790572/assignments/13254977)	due by 6pm
	Kaggle Project - Quiz 1 (https://usflearn.instructure.com/courses/1790572/assignments/13254947)	due by 11:59pm
	Practice Quiz 1 (https://usflearn.instructure.com/courses/1790572/assignments/13254967)	due by 11:59pm
Fri Feb 3, 2023	Kaggle Project Discussion - Your First Kaggle Submission (https://usflearn.instructure.com/courses/1790572/assignments/13254975)	due by 6pm
	Kaggle Project - Quiz 2 (https://usflearn.instructure.com/courses/1790572/assignments/13254973)	due by 11:59pm
	Practice Quiz 2 (https://usflearn.instructure.com/courses/1790572/assignments/13254959)	due by 11:59pm
Fri Feb 17, 2023	Kaggle Project - Quiz 3 (https://usflearn.instructure.com/courses/1790572/assignments/13254961)	due by 11:59pm
	Practice Quiz 3 (https://usflearn.instructure.com/courses/1790572/assignments/13254945)	due by 11:59pm
Sat Feb 18, 2023	Please submit your course evaluations (https://usflearn.instructure.com/courses/1790572/assignments/13254981)	due by 11:59pm
	Team Research and Presentation (https://usflearn.instructure.com/courses/1790572/assignments/13254985)	due by 11:59pm
Fri Feb 24, 2023	Kaggle Project Discussion - Data Challenges Solved and Competition Completed (https://usflearn.instructure.com/courses/1790572/assignments/13254979)	due by 6pm

Date	Details	Due
	Kaggle Competition - Your Scores and Leaderboard Position (https://usflearn.instructure.com/courses/1790572/assignments/13254965)	due by 11:59pm
	Submit Team Presentation Slides (https://usflearn.instructure.com/courses/1790572/assignments/13254983)	