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INFO 389-01 Business Intelligence

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INFO 389: Business Intelligence

Instructor: Dr. (Ari) Thilini Ariyachandra

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E-mail: ariyachandrat@xu.edu (Please include “INFO 389” in the subject line) <- The BEST way to contact me.

Office Hours: 9:45am to 11:30am on Tuesday/Thursday and 4pm to 6pm on Wednesday

Mission of the Williams College of Business

“We educate students of business, enabling them to improve organizations and society, consistent with the Jesuit tradition”.

Course Description and Objectives

We live in a data-rich world in which seemingly simple visualizations represent complex realities. Data has the potential to inform decision-making and influence public or corporate policy, and when visualized with appropriate context, data has the power to be an impetus for change in the world. In this hands-on introduction to data visualization, key design principles and techniques for interactively visualizing data will be introduced. The major goals of this course are to understand how visual representations can help in the analysis and understanding of complex data, how to design effective visualizations, how to create interactive dashboards & visualizations and how to storyboard and effectively communicate using visualization.

By the end of the semester, students will be able to use visualization to discover insights in data. Students will be able to choose appropriate visualizations to perform exploratory analysis and investigate data, and create explanatory visualizations to communicate findings. To do this, students will leverage knowledge of a collection of different visualization techniques along with understanding of how to appropriately apply them and optimize their appearance for clarity and integrity.

Student Learning Objectives

- Gain an understanding of the principles of descriptive and exploratory data visualization.
- Utilize visual tools to clean, parse and manipulate data to explore and help solve business problems.
- Create effective data visualizations from base data sets.
- Compose data stories for effective corporate communication of analytical insights.

In so doing, the course reinforces WCB Learning Goals and Objectives:

- Collect, evaluate and synthesize information to offer solutions and support decision making.
- Produce business reports demonstrating their ability to organize and communicate ideas clearly and professionally.
- Make effective presentations, accompanied by the appropriate technology, demonstrating their ability to organize and communicate ideas clearly and professionally, both individually and in teams.

Course Prerequisites & Required Skills

Students should have completed INFO 220. Please drop this course if you do not have this prerequisite. I assume you are computer literate. This means you know computer history, computer technology, and some business applications. It is helpful, but not required, for students to have taken a database course, or have previous database work experience.

Course resources

Books :

Title *Storytelling with Data: A Data Visualization Guide for Business Professionals*

Author Cole Nussbaumer Knaflic

Publisher Wiley, New York, 2015

ISBN: 978-1119002253

Title *The Visual Display of Quantitative Data*

Author Edward Tufte

Publisher Graphics Pr; 2nd edition 2001

ISBN 0961392142, 978-0961392147 - (Supplementary)

Title Database Systems: Introduction to Databases and Data Warehouses

Author Nenad Jukic

Publisher Wiley, New York, 2014.

ISBN: 978-1943153190 - (Supplementary)

Teradata University Network:

The class may use resources on the Teradata University Network (TUN). Please register on TUN. Its URL is <http://www.teradatauniversitynetwork.com> (Links to an external site.)Links to an external site.. The password to access materials is Analytics. (Please note that the password is not case sensitive).

Course Grading

Student performance will be evaluated on the following basis:

| | |
|------------------------|------|
| Class Participation | 7% |
| Individual Assignments | 15% |
| Group Class Activities | 3% |
| Group Project One | 15% |
| Group Project Two | 25% |
| Exams | 35% |
| Total | 100% |

IMPORTANT NOTE: You **MUST** score at least 60% on combined score on individual work in order for the group work points to count toward your final grade. In other words, the group work cannot help you pass the course if you have a failing grade on the individual work.

**Please note that the grades reported on Canvas should be looked at with caution. While individual assignment grades are accurate, the overall total on Canvas does not reflect your overall grade. You should compute your overall grade based on the percentages provided in the evaluation table above.

Class Participation:

Students are expected to attend all class sessions on time. Class attendance should be given priority over other activities. Late attendance will count as a partial absence. “A” students must attend all classes and actively provide thoughtful, relevant comments to class discussions and class exercises. Low attendance, more than 15 percent absences, will result in an automatic fail in the course.

*Please note: using computers, mobile phones or laptops for personal use (e.g., email) will be grounds for reduction of your overall participation grade. The participation grade will be reduced by one percentage point for EACH INSTANCE of computer use for any activity outside of class work. Your participation grade will be available to you at the end of the semester. Please do not be surprised if you receive a zero for participation at the end of the course if you violate this policy.

Group Work: Assignments & Project

Each student will be assigned to a permanent team for the duration of the course. Students will work on assignments and a project in teams. Team peer evaluations will be administered to assess each team member’s contribution to the assignments/project.

Groups are expected to complete all assignments on time. I will only accept assignments turned in on the due date. Each team will also work on a dashboard project. The project description will be discussed at a later date in class. Deliverables of assignments/project milestones are due at the start of class on the due date; your project grade will suffer significantly if a deliverable is not on time (i.e., 20% reduced for each day late). Your grade on the team project will be based on the quality of the deliverables your team produces.

General Course Philosophies & Policies

The learning environment:

Your contributions directly impact the value you and your fellow students gain from this course. To that end, you can contribute to a supportive learning environment by meeting these expectations:

- Arrive on time and stay until the end of class.
- Turn off cell phones, pagers and alarms while in class.
- Limit the use of electronic devices (e.g., laptop, tablet computer) to class-related usage such as taking notes. Restrict the use of an Internet connection (e.g., checking email, Internet browsing, sending instant messages) to before class, during class breaks, or after class.
- During class time speak to the entire class and fully participate in class discussions.

- Be fully present and remain present for the entirety of each class meeting.

Academic honesty:

Academic dishonesty, in any form, is a serious offense. The University Rules and other documented policies of the department, college, and university related academic integrity will be enforced. Any violation of these regulations, including acts of plagiarism or cheating, will be dealt with on an individual basis according to the severity of the misconduct.

Special needs:

If you have any special needs related to your participation in this course that may influence your performance in this course you should meet with the instructor to arrange reasonable provisions to ensure an equitable opportunity to meet all the requirements of this course.

Evaluation:

The final grade awarded will be based on the percentage of the total points awarded as follows:

| Scale | | | |
|-------|--------|----|-------------|
| A | 94-100 | | |
| A- | 90-93 | | |
| B+ | 87-89 | C+ | 77-79 |
| B | 83-86 | C | 70-76 |
| B- | 80-82 | F | Below 70 |

Grading:

Every effort will be made to return assignments, group milestones, etc...within one week of submission.

Grade appeals:

If you have a concern about a grade that you receive in this class, you are invited to submit to me a written appeal within one week of receiving the grade in question. The appeal should outline your specific concerns with the grade and provide evidence supporting why the grade should be changed. I will then review your appeal and respond as quickly as possible. I reserve the right to re-grade the entire assignment or project milestone in question.

Communication:

Email is the best way to communicate with me. I will answer emails within 24 hours of receipt. I expect the same courtesy from you. Email will be a very important mode of communication in this class. Also make sure to check Canvas announcements on a regular basis for updates or additional course material.

Please note that I will often have extended office hours to help with course material. It is also possible that official emergencies may require me to change office hours. Please check Canvas for changes in office hours before coming to see me for office hours. Also, please note that in addition to office hours, given adequate notice (a few hours), I can often come to campus to help you with course work.

Teaching Style

The instructional style will primarily consist of lectures and hands-on application tutorials using videos. The lectures are designed to be interactive. Classroom participation is expected and is therefore highly encouraged. Please feel free to ask questions, make observations, and share your relevant real world experiences. It is my intention to make the classroom environment rather informal and relaxed. If you are unsure about a topic PLEASE ASK QUESTIONS. If no one is asking questions, I can only assume that everyone understands the material.

Attendance

I expect you to attend class regularly, in accordance with university policy. You are responsible for any material covered, amendments to the syllabus, or announcements made in class, whether you are present or not. Please check with your team mates in class for work missed. It is your responsibility to keep up with the material from class.