ORGL 3331 – Data Driven Decision Making
COURSE SYLLABUS

INSTRUCTOR INFORMATION

Instructor: Mei-Ying (Elaine) Lin, EdD
Office Location: Online
Office Hours: Email or Telephone or Virtual by Appointment
University Email Address: Elaine.Lin@tamuc.edu
Preferred Form of Communication: Email
Communication Response Time: 12-24 hours

COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings:
This course uses all Open Educational Resources.

Supplemental Materials:
Links and files will be provided in the document sharing tab within the course**.**

Software:
Microsoft Excel & PowerPoint

COURSE DESCRIPTION

ORGL 3331: Data-Driven Decision Making examines the role of quantitative data in managerial and entrepreneurial decision-making. The course draws upon quantitative tools and analyses from several disciplines, especially, statistics, economics, accounting, and finance. The course study demonstrates the usefulness of these tools and analyses in providing optimal technical options in decision-making situations.

The emphasis of the course is on the interpretation and translation of data into information for the benefit of internal and external consumers.

Competency Description:
This competency focuses on understanding types of data as well as methods and procedures of data-driven decision making. Students will identify, select, and analyze various ways that data are used as measurable outcomes aligned with business imperatives within a chosen project. They will also learn sound principles of protecting and managing data.

STUDENT LEARNING OUTCOMES

Upon completion of this course, the student will be able to:

- LO1: Explain the importance of data in decision-making (Module 1).
- LO2: Identify the methods used for data-driven decision making (Module 2).
- LO3: Describe Financial, Customer, Marketing, Sales, and Employee and Corporate Social Responsibility Key Performance Indicators (Module 3, 4, and 5).
- LO4: Explain measures of central tendency including mean, median, and mode (Module 3).

- LO5: Create charts with Microsoft Excel using basic statistic functions (Module 4).
- LO6: Describe two current trends in analytics (Module 5).
- LO7: Apply principles for protecting data (Module 6).

COURSE REQUIREMENTS

Pre-test

- The Pretest quizzes in each module will assess your knowledge of Data Driven Decision Making focusing on 6-course learning objectives. The purpose of the pretest is to provide a baseline understanding of your knowledge in each competency.
- **The pre-test in each module is required for the course**.

Post-test and Culminating Project

- **The Post-test** for this course assesses your knowledge of Data Driven Decision Making course learning objectives.
- **The post-test in each module is required for the course.**
- **Culminating Project**
  This assignment will aid the student in demonstrating proficiency of all competencies in this course and will serve as the overall course assessment tool. Students are expected to complete the project, demonstrating proficiency in all course learning outcomes.

A score of 80 percent or higher on both the Posttest and Culminating Project is required to demonstrate competency and pass the course.

- If you score less than 80 percent on the Posttest and/or Culminating Project you will have an opportunity to review the course materials and re-take the Post-test and/or resubmit the Culminating Project.
- You may take the Post-test assessment and submit the Culminating Project up to three times. Please avoid last-minute work if you expect/plan to revise your project.
- If you have not passed the competency in three attempts, you will work with an Academic Coach to determine another method of fulfilling the program requirements in this subject.
- Not passing the posttest or the project will receive a grade of **"F"** and be required to complete the failed part in the next term.

Grading

The following items will be used to calculate the final grade in the course.

Item	Worth
Pretest	60 points (NOT counted toward Final Grade)
Posttest	600 points
Culminating Project Attempt	100 points
Total (**Average** of Posttest & Culminating Project)	**100 points**

Grading Scale
A = 90% -- 100%
B = 80% -- 89%
F = 79% or Below

TECHNOLOGY REQUIREMENTS

Browser support

D2L is committed to performing key application testing when new browser versions are released. New and updated functionality is also tested against the latest version of supported browsers. However, due to the frequency of some browser releases, D2L cannot guarantee that each browser version will perform as expected. If you encounter any issues with any of the browser versions listed in the tables below, contact D2L

Support, who will determine the best course of action for resolution. Reported issues are prioritized by supported browsers and then maintenance browsers.

Supported browsers are the latest or most recent browser versions that are tested against new versions of D2L products. Customers can report problems and receive support for issues. For an optimal experience, D2L recommends using supported browsers with D2L products.

Maintenance browsers are older browser versions that are not tested extensively against new versions of D2L products. Customers can still report problems and receive support for critical issues; however, D2L does not guarantee all issues will be addressed. A maintenance browser becomes officially unsupported after one year.

Note the following:

- Ensure that your browser has JavaScript and Cookies enabled.
- For desktop systems, you must have Adobe Flash Player 10.1 or greater.
- The Brightspace Support features are now optimized for production environments when using the Google Chrome browser, Apple Safari browser, Microsoft Edge browser, Microsoft Internet Explorer browser, and Mozilla Firefox browsers.

Desktop Support

Browser	Supported Browser Version(s)	Maintenance Browser Version(s)
Microsoft® Edge	Latest	N/A
Mozilla® Firefox®	Latest, ESR	N/A
Google® Chrome™	Latest	N/A
Apple® Safari®	Latest	N/A

Tablet and Mobile Support

Device	Operating System	Browser	Supported Browser Version(s)
Android™	Android 4.4+	Chrome	Latest
Apple	iOS®	Safari, Chrome	The current major version of iOS (the latest minor or **point** release of that major version) and the previous major version of iOS (the latest minor or **point** release of that major version). For example, as of June 7, 2017, D2L supports iOS 10.3.2 and iOS 9.3.5, but not iOS 10.2.1, 9.0.2, or any other version. Chrome: Latest version for the iOS browser.
Windows	Windows 10	Edge, Chrome, Firefox	Latest of all browsers, and Firefox ESR.

- You will need regular access to a computer with a broadband Internet connection. The minimum computer requirements are:
    - 512 MB of RAM, 1 GB or more preferred
    - Broadband connection required courses are heavily videoed intensive
    - Video display capable of high-color 16-bit display 1024 x 768 or higher resolution

- You must have a:
    - Sound card, which is usually integrated into your desktop or laptop computer
    - Speakers or headphones.
    - *For courses utilizing video-conferencing tools and/or an online proctoring solution, a webcam and microphone are required

- Both versions of Java (32-bit and 64-bit) must be installed and up to date on your machine. At a minimum Java 7, update 51, is required to support the learning management system. The most current version of Java can be downloaded at the website http://www.java.com/en/download/manual.jsp

- Current anti-virus software must be installed and kept up to date.

Running the browser check will ensure your internet browser is supported.

Pop-ups are allowed.
JavaScript is enabled.
Cookies are enabled.

- You will need some additional free software (plug-ins) for enhanced web browsing. Ensure that you download the free versions of the following software:
  - Adobe Reader https://get.adobe.com/reader/
  - Adobe Flash Player *(version 17 or later)* https://get.adobe.com/flashplayer/
  - Adobe Shockwave Player https://get.adobe.com/shockwave/
  - Apple Quick Time http://www.apple.com/quicktime/download/

- At a minimum, you must have Microsoft Office 365, 2019, & 2013 or Open Office. Microsoft Office is the standard office productivity software utilized by faculty, students, and staff. Microsoft Word is the standard word processing software, Microsoft Excel is the standard spreadsheet software, and Microsoft PowerPoint is the standard presentation software. Copying and pasting, along with attaching/uploading documents for assignment submission, will also be required. If you do not have Microsoft Office, you can check with the bookstore to see if they have any student copies.

ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu**.**

Note: Personal computer and internet connection problems do not excuse the requirement to complete all coursework in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

COMMUNICATION AND SUPPORT

Brightspace Support
Need Help?
Student Support

If you have any questions or are having difficulties with the course material, please contact your instructor.

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778 or click on the **Live Chat** or click on the words "click here**"** to submit an issue via email.

System Maintenance

Please note that on the 4th Sunday of each month there will be System Maintenance which means the system will not be available 12 pm-6 am CST.

Interaction with Instructor Statement

Email is the best way to contact the instructor. Course shell also provides a way to share content-related questions and help with needs through multiple discussion forums. If the instructor cannot be reached during office hours and talking over the phone is helpful, leaving a voice mail or emailing the instructor leaving the best date, time, and phone number to reach will be most effective.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures/Policies

The instructor will make every effort to grade an exam and the final project. If an unusual delay should occur, such as illness or conference travel, instructor availability and expected timeline/response will be shared as a course announcement in the course shell. The course has no extra-credit assignment.

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

University Specific Procedures

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the **Student Guidebook**.

- http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: **Netiquette**

- http://www.albion.com/netiquette/corerules.html

TAMUC Attendance

For more information about the attendance policy please visit the **Attendance** webpage and **Procedure 13.99.99.R0.01**.

- http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx
- http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf

Academic Integrity

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

- Undergraduate Academic Dishonesty 13.99.99.R0.03
  - http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf
- Graduate Student Academic Dishonesty 13.99.99.R0.10
  - http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf

ADA Statement

Students with Disabilities

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Texas A&M University-Commerce
Gee Library- Room 162
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
Email: studentdisabilityservices@tamuc.edu
Website: Office of Student Disability Resources and Services
http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/

Nondiscrimination Notice

Texas A&M University-Commerce will comply in the classroom, and online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information, or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the Carrying Concealed Handguns On Campus document and/or consult your event organizer.

Web URL:
http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

COURSE OUTLINE / CALENDAR (The Course Outline / Calendar is Subject to Change)

Modules and Learning Objectives / Competencies	Materials to Read or Review	Assignments

- **Module 1: Introduction to Data and DDDM**
- LO1
	- Read:
	  - Introduction to DDDM
	  - From Data to Decisions
	  - Introduction to Data and DDDM
	  - Key Terms
	  - Data in Education
	- Practicing using the KPI Library
	- Watch:
	  - Explaining Big Data videos
		- Take the **Pretest1** (required)
		- Go through all material under Module 1
		- Module 1 Activity to support the Data Analysis Report
		- Take the **Posttest1** (required) **– earn 80 or higher points.**

- **Module 2: Variability, Algorithm, Prediction, and Randomization**
- LO2
	- Read:
	  - Introduction: Variability
	  - Algorithm, Prediction, and Randomization
	  - Using Algorithm for Prediction
	  - Algorithmic Systems in Education
	  - Predicting At-Risk Students
	  - Key Terms 1 & 2
	- Watch:
	  - Standard Deviation Explained
	  - What is an Algorithm
	  - How Algorithms Shape Our World
	  - Data Visualization
		- Take the **Pretest2** (required)
		- Go through all material under Module 2
		- Module 2 Activity to support the Data Analysis Report
		- Take the **Posttest2** (required) **– earn 80 or higher points.**

- **Module 3: Data Identification and Application Part I & II**
- LO3 & LO4
	- Read:
	  - Introduction: Data Identification and Application
	  - Algorithm, Prediction, and Randomization
	  - Using Data to Guide School Improvement
	  - Key Performance Indicators for Schools & Education
	  - Key Terms
	- Activity Financial & Customer KPIs
	- Watch:
	  - The Four Most Important Financial Metrics
	  - Customer Metrics
	  - Mean, Median, Mode and Range
	  - How to Develop Key Performance Indicators
		- Take the **Pretest3** (required)
		- Go through all material under Module 3
		- Module 3 Activity to support the Data Analysis Report
		- Take the **Posttest3** (required) **– earn 80 or higher points.**

- **Module 4: Casuals vs Correlational Models**
- LO3 & LO5
	- Read:
	  - Introduction: Causal vs Correlational Models
	  - Causation and Correlation in Education
	- Watch:
	  - Fundamentals of Correlation and Causation
		- Take the **Pretest4** (required)
		- Go through all material under Module 4
		- Take the **Posttest4** (required) **– earn 80 or higher points.**

Modules and Learning Objectives / Competencies	Materials to Read or Review	Assignments

- **Module 5: Group Differences and Errors**
- LO3 & LO6
	- Read:
	  - Introduction: Group Differences
	  - Data Visualization Using Excel
	  - Introduction: Errors
	  - Errors & Sampling Errors
	  - Importance of Statistics in Education
	- Watch:
	  - Visualization of Group Statistics
	  - Using Excel Pivot Tables to Create a Dashboard
	  - Anne Milgram on Why Smart Statistics are the key to Fighting Crime
	  - False Positive Riddle
	  - Type I and Type II Errors
	  - Types of Data: Nominal, Ordinal, and Interval/Ratio
		- Take the **Pretest5** (required)
		- Go through all material under Module 5
		- Module 5 Activity to support the Data Analysis Report
		- Take the **Posttest5** (required) **– earn 80 or higher points.**

- **Module 6: Data Protection and Integrity, Hypothesis Testing**
- LO7
	- Read:
	  - Introduction: Hypothesis Testing
	  - Introduction Data Protection and Integrity
	- Activity Studying Information Technology KPIs
	- US Deps of Ed – FERPA 101 training (30-40 minutes
	- Watch:
	  - Understanding Hypothesis
	  - What We Learned from 5 Million Books
	  - Why is Data management Important?
		- Take the **Pretest6** (required)
		- Go through all material under Module 6
		- Take the **Posttest6** (required) **– earn 80 or higher points.**

- **CULMINATING PROJECT** - LO2, LO3, LO4, & LO5	- DATA ANALYSIS REPORT	**REQUIRED ASSIGNMENT:** - Complete/submit the project by 11:59 PM FINAL Day to D2L assigned Dropbox for grading. Earn **80 or higher points on <u>both</u> Excel & PowerPoint files.**