TENTATIVE SYLLABUS - ECO 302

Business and Eco Statistics

Summer I – 2022

Instructor: Dr. Chuck Arize
Office Location: BA 212
Office Hours: Tuesday and Thrusday, 7:00 P.M. – 8:00 P.M.
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Preferred Form of Communication: Web Based Class

Communication Response Time: We prefer that students use email to communicate. We will respond to your emails within 24 hours except on weekends**.**

Textbook(s) Required: Here is the book that can be used for the class.

D. A. Lind/W. G. Marchal/S. A. Wathen, Statistical Techniques in Business & Economics – McGraw Hill Irwin, 17e Year: 2018, ISBN: 9781259666360 (978-1-259-66636-0).

Some students who passed this course found the next book very helpful:

"Statistics Classnotes ECO 302 Summer 2021" from the university bookstore (you can call 903-886-5830, 903-886-5828, or 903-886-2692)

THIS SYLLABUS IS TENTATIVE

You can find useful materials under the D2L content tab to help you success in this class. The previous recorded presentation videos and slides can be found in D2L.

This is an online class and requires the student to be more SELF-DIRECTED. You are responsible for all the material in the chapters assigned whether I discuss that material in the class live or NOT. When we have a class live it is an opportunity to touch on a subject you should have already read over. Not a time to teach everything.

Summer courses move at an **EXTREMELY RAPID PACE.** You are essentially charged with completing three weeks of material in one week. You will need to "attend" this course daily online through YouSeeU. Proper studying will be done through a combination of reading the text, attending classlive or viewing recorded version. Most important is paying attention to materials the professor views as relevant. Grading for the course is covered below. At this writing, I plan to be online Monday and Wednesday between 7PM and 8PM to conduct classlive on the material for each week. You can access these sessions live through YouSeeU or watch them at a time more convenient for you. Each session will be recorded.

Course Description:
This course introduces students to descriptive statistics (measures of central tendency and variation and representing data graphically) and statistical inference. Inference will involve sampling techniques, estimation, hypothesis-testing and simple regression.

Applications emphasize continuous improvement of products and services. **Prerequisites**: Lvl U MATH 176 Min Grade C or Lvl U MATH 1325 Min Grade C

Course Objectives
The objective of this course is to provide an understanding for the undergraduate business student on statistical concepts to include measurements of location and dispersion, probability, probability distributions, sampling, estimation, hypothesis testing, regression, and correlation analysis, multiple regression and business/economic forecasting. By completing this course, the student will learn to perform the following:

1) Calculate and apply measures of location and measures of dispersion.
2) Apply discrete and continuous probability distributions to various business problems.
3) Understand the concepts of null and alternative hypotheses, and type I and type II errors, and perform tests of hypotheses. Moreover, the student is able to calculate the confidence interval for a population parameter for a single mean, including use of the "t" and the "Z" tests.
4) Compute and interpret the results of Bivariate and Multivariate Regression and Correlation Analysis.

COURSE OUTLINE / CALENDAR TENTATIVE

Topic	Assignment/Test	Due Date
1.What is Statistics?		
2.Describing and Summarizing Data		
3.Describing Data-Measures of Central Tendency		
4.The Statistical Sampling Study		
5.A Survey of Probability Concepts	Midterm Exam	June 27
6.Discrete Probability Distributions		
7.The Normal Probability Distribution		
8.Estimation and Hypothesis Testing		
9.One-Sample Tests of Hypothesis		
10. Linear Regression and Correlation	Final Exam	July 5th

HOMEWORKS SCHEDULE:

Homeworks	Homework Starting Time	Homework Ending Time
Excel Homework 1	June 17 (Mon)	June 20 (Fri)

EXAM SCHEDULE:

Exams	Topics Covered	Exams Uploaded by Noon (CST)	Due Date by Noon (CST)
Midterm Exam	1-5	June 24 (Fri)	June 27 (Mon)
Final Exam	6-10	June 30 (Thur)	July 5 (Tues)

NOTE THE FOLLOWING

1. This syllabus is tentative for the semester. It is meant to be a guide. Certain topics may be stressed more or less than indicated in the class notebooks and, depending on class progress, certain topics may be omitted.
2. Homework problems may be recommended on a regular basis.
3. Missed examination: A missed examination will be considered as 'F'.

Even though there are live classes every week. Students should go over the material on their own and not all the syllabus is covered in live lectures it is the responsibility of the students to cover the whole syllabus.

Grading: Each student's grade will be comprised of a midterm exam (30%), a final exam (50%), and two (2) excel assignments (20% total).

Grading Scale: A = 90%-100%
B = 80%-89.99999%
C = 70%-79.99999%
D = 60%-69.99999%
F = 59.99999% or Below

Online Class	
	Weight %
Midterm Exam	30%
Final Exam	50%
Homework	20%
Total	**100%**

Late Assignment Policy:

Late assignments will accrue a penalty of 10 points per day the assignment is late. An assignment is considered one day late if it is submitted past the identified due date/time. It is considered two days late if it is submitted any more than 24 hours past the identified due date/time, and so forth. This includes weekends! Once an assignment is more than 10 days late, it will become a zero and will not be accepted for credit.
If a student wants an extension for an assignment, this must be received no less than 48 hours before the assigned due date/time. Extensions are not guaranteed, and are at the discretion of the instructor. Extensions may include a late penalty.

- **Late Exams:** An exam that is turned in late will be given a penalty of **10 points per day late** *unless* your instructor is notified *prior* to the due date and the excuse is a legitimate medical one or is officially approved. Acceptable documentation, such as a doctor's note, may be required.
- As with all work in this course, the exams must be completed individually.

Netiquette

The discussion boards are created to provide an opportunity for students to actively engage in meaningful conversation on a particular topic or issue. You are encouraged to provide your honest viewpoint, but be respectful of the views of your classmates.

Do's

1. Do use correct grammar and spelling.
2. Do read the prompt, reflect on what you would like to say, and review what you've written before posting!
3. Do respect the privacy, beliefs, and opinions of your classmates.
4. Do challenge each other's ideas but not each other personally.
5. Do remember to treat others as you would want to be treated.
6. Do stick to the discussion prompt at hand when posting to a forum.
7. Do use humor and sarcasm carefully. Students cannot see your facial expressions or hear any voice inflections.

Don'ts

1. Don't type in ALL CAPS. This is regarded as shouting.
2. Don't rant or rage. This is not the place to vent your anger or start a fight.
3. Don't make inappropriate comments. Objectionable, sexist, or racist language will not be tolerated.

In the discussion forums you will post assignments and discuss your work with others in the class or in your groups. These are public forums, so whatever is posted can be seen by everyone in the course, including the instructors. If you want to send a private message, use individual email. The Class Lounge discussion forum is a public space for conversation with your classmates on any topic or question.

General Comments:

1. Each student is expected to check his/her **university** e-mail (e.g. rt42@tamcu.edu) frequently for course announcements. E-mails **will not** be sent to personal e-mail addresses (e.g. goldlion@yahoo.com). This is to ensure privacy.

2. You will most likely need a calculator for this course. A standard calculator should be sufficient. A graphing calculator is not necessary.

Student Responsibilities/Tips for Success in the Course

1. Students are expected to:
   a. Read text assignments as scheduled.
   b. Read the chapter Instructions provided by the Professor.
   c. Work the assigned homework problems independently. Submit the homework problems due as indicated in the appropriate submission box of D2L Brightspace.

d. Read the regular announcements in the Announcement section of the e-college and download the posted materials with download links.

2. This syllabus is tentative for the semester. It is meant to be a guide. Certain topics may be stressed more or less than indicated in the text books and, depending on class progress, and certain topics may be omitted.
3. Homework problems are assigned and graded bi-weekly. Solution to Assignment problems will be provided after the deadline for submission.
4. I provide detailed Instructions with examples for each Chapter. I post the links to the Chapter Instructions in the Doc sharing Section.
5. Feel free to ask questions through email or other online tools, especially the virtual office. I am accessible 24/7 through these channels even during weekends or holidays. You can ask any question related to the course topics in the virtual office and I try to answer them within few hours (maximum 24 hours). In the virtual office or students' forum you can also try to answer others' questions. But you are expected to maintain etiquette and decency in your responses.
6. Demeanor: "All students enrolled at the university shall follow tenets of common decency and acceptable behavior conducive to a positive learning environment". See Students Guide Book.
7. Attendance Policy: In the online course there is no class attendance. But assignments and tests have corresponding due dates

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
Microsoft® or Internet Explorer®	N/A	11
Mozilla® or Firefox®	Latest, ESR	N/A
Google® or 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 pre vious major version of iOS (the latest minor or **point** release of that major version). For example, as of June 7, 2017, D2Lsupports iOS10.3.2 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:
    - o 512 MB of RAM, 1 GB or more preferred
    - o Broadband connection required courses are heavily video 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: JAVA web site 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 2013, 2010, 2007 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 course work 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.

Technical Problems

For issues with Brightspace/D2L you must contact Academic Technology. I have no knowledge about any of the university's software beyond how I use it. Emailing me about tech issues only delays getting an answer or a solution to the problem you are having. I do not have access the software, your machine, your internet connection to TAMUC or the rest of the world to be of any assistance with a technical problem.

System Maintenance

D2L runs monthly updates during the last week of the month, usually on Wednesday. The system should remain up during this time unless otherwise specified in an announcement. You may experience minimal impacts to performance and/or look and feel of the environment.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

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 in Webinar or through email.

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. (See current Student Guidebook).

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

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 132

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148
Email: Rebecca.Tuerk@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 in 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

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

((http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf) and/or consult your event organizer). 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.

Rubric:

Criteria (Course Objectives)	**1 (Unsatisfactory)**	**2 (Emerging)**	**3 (Proficient)**	**4(Exemplary)**
1) Learn how to calculate and apply measures of location and measures of dispersion -- grouped and ungrouped data cases.	Student cannot and apply any measures of location and measures of dispersion for grouped and ungrouped data.	Student can and apply some measures of location and measures of dispersion for grouped and ungrouped data.	Student can and apply most measures of location and measures of dispersion for grouped and ungrouped data.	Student can and apply all measures of location and measures of dispersion for grouped and ungrouped data.
2) Learn how to apply discrete and continuous probability distributions to various business problems.	Student cannot apply discrete and continuous probability distributions to any business problems.	Student can apply discrete and continuous probability distributions to some business problems.	Student can apply discrete and continuous probability distributions to most of business problems.	Student can apply discrete and continuous probability distributions to all of business problems.
3) Understand the hypothesis testing: 3.1 Be able to perform Test of Hypothesis 3.2 calculate confidence interval for a population parameter for single sample and two sample cases. 3.3 Understand the concept of p-values.	3.1 Student cannot perform the test of hypothesis 3.2 Student cannot calculate confidence interval for a population parameter for single sample and two sample cases. 3.3 Student doesn‘t understand the concept of p-value.	3.1 Student can perform some test of hypothesis 3.2 Student can calculate some confidence interval for a population parameter for single sample and two sample cases. Student understands some part of the concept of p-value.	3.1 Student can perform most test of Hypothesis 3.2 Student can calculate most confidence interval for a population parameter for single sample and two sample cases. 3.3 Student understands most part of the concept of p-values.	3.1 Student can perform all test of Hypothesis 3.2 Student can calculate all confidence interval for a population parameter for single sample and two sample cases. 3.3 Student understands the entire concept of p- values.
4) Learn non-parametric test such as the Chi-Square test for Independence as well as Goodness of Fit.	4) Student doesn‘t know non- parametric test such as the Chi-Square test for Independence as well as Goodness of Fit.	4) Student knows some parts of non-parametric test such as the Chi-Square test for Independence as well as Goodness of Fit.	4) Student knows most parts of non-parametric test such as the Chi-Square test for Independence as well as Goodness of Fit.	4) Student knows all parts of non-parametric test such as the Chi-Square test for Independence as well as Goodness of Fit.

5) Understand regression analysis: 5.1 Be able to compute and interpret the results of Bivariate Regression 5.2 Be able to compute and interpret the results of Multivariate Regression. 5.3 Be able to compute and interpret Correlation Analysis 5.4 Be able to perform ANOVA and F-test. 5.5 Be able to understand both the meaning and applicability of a dummy variable. 5.6 Be able to understand the assumptions which underline a regression model. 5.7 Be able to perform a multiple regression using computer software.	5.1 Student cannot compute and interpret the results of Bivariate Regression 5.2 Student cannot compute and interpret the results of Multivariate Regression 5.3 Student cannot compute and interpret Correlation Analysis 5.4 Student cannot solve any questions regarding ANOVA and F-test. 5.5 Student cannot apply the dummy variable to solve any questions. 5.6 Student does not understand the assumptions which underline a regression model. 5.7 Student is unable to perform a multiple regression using computer software.	5.1 Student can compute and interpret some of the results of Bivariate Regression 5.2 Student can compute and interpret some of results of Multivariate Regression 5.3 Student can compute and interpret some parts of Correlation Analysis 5.4 Student can solve easy questions regarding ANOVA and F-test. 5.5 Student cannot apply the dummy variable to solve some questions. 5.6 Student understands some parts of the assumptions which underline a regression model. 5.7 Student is able to perform a multiple regression using computer software for easy questions.	5.1 Student can compute and interpret most of the results of Bivariate Regression 5.2 Student can compute and interpret most of results of Multivariate Regression 5.3 Student can compute and interpret most parts of Correlation Analysis 5.4 Student can solve medium- hard questions regarding ANOVA and F-test. 5.5 Student cannot apply the dummy variable to solve most questions. 5.6 Student understands most parts of the assumptions which underline a regression model. 5.7 Student is able to perform a multiple regression using computer software for medium-hard questions.	5.1 Student can compute and interpret all of the results of Bivariate Regression 5.2 Student can compute and interpret all of results of Multivariate Regression 5.3 Student can compute and interpret all parts of Correlation Analysis 5.4 Student can solve difficult questions regarding ANOVA and F-test. 5.5 Student cannot apply the dummy variable to solve all the questions. 5.6 Student understands all parts of the assumptions which underline a regression model. 5.7 Student is able to perform a multiple regression using computer software for difficult questions.