



TMGT 240 Introduction to Statistics (Spring 2017)

The approach to this course is provide three emphases: 1) introduce elementary statistical concepts to provoke statistical thinking and reasoning, 2) provide practical exercises in MS Excel to generate statistical numerical output and increase computational capability in Excel, and introduce supplementary reading that provide a 'real world' example or case study. By the end of the course you will be familiar with statistical terms and functions, understand their value in decision making, and be able to evaluate their application to a problem as a Technical Manager.

Instructor: Dr. Tommy VanHorne

Adjunct Instructor, Department of Engineering & Technology
Texas A&M University - Commerce

Email: (to be provided later)

Office Hours: W 10:00 am-12:00 pm or by appointment.

(Office: AG/IT:)

- ✓ *These hours **might change** during semester, please check the course **announcements** regularly for any possibility of change in office hour schedule.*
- ✓ *If you want to see me anytime **other than** the office hours, please email or call me **to set an appointment** beforehand.*

Required Textbooks (2):

Statistical Analysis: Microsoft Excel 2013

by Conrad Carlberg
ISBN 978-0-7897-53113

Statistical Reasoning for Everyday Life 4e

By Bennett, Briggs, and Triola
ISBN 978-0-3218-17624

Instructional Videos:

Videos from YouTube will deliver the bulk of instruction. Hyperlinks will be provided. You need to allocate time weekly to view the videos and complete any assigned exercises by the due date. Inure you have a good internet connection and appropriate software.

Student Learning Outcomes:

Upon satisfactory completion of the course, the student will:

1. Have developed the ability to identify pertinent questions to the problem at hand.
2. Understand methods for data gathering and sampling strategies.
3. Have a top-level understanding of the language, terminology, and statistical methods used in data analysis.
4. Have developed confidence in interpreting statistical data.
5. Have developed an appreciation that statistics can bring clarity to critical thinking for a Technology Manager.

Course Requirements

This course consists of a series of assignments, discussions, quizzes, and exams to assist you in achieving the outcomes/objectives for the course. Each week you will work on various combinations of these. Since this is a 100% online course, all course work will be posted on the eCollege course page. All your work must be submitted online as well.

Point Distribution

Assessment Type	%
Discussion Post	20
Weekly Assignments	25
Mid-term Exam	20
Final Exam	35
Total	100

Based on the points received, the grades will be determined according to the criteria below.

Grade Criteria

A	B	C	D	F
100 - 90	89 - 80	79 - 70	69 - 60	59 - 0

Important Notes:

- ✓ No Late work will be accepted.
- ✓ The eCollege gradebook will be utilized to provide student feedback on earned scores. The goal is to have all assignments graded within 1 week of submission.
- ✓ Discussion posts will be graded based on the following:

Rubric for Discussion posts	
The content of your post: Creativity, originality, clarity, thoroughness	60%
Scientific thought: Support of your ideas (research with references)	40%

Technology Requirements

- To fully participate in online courses, you will need to use a current, Flash enabled browser. For PC users, the suggested browser is Internet Explorer 9.0 or 10. For Mac users, the most current update of Firefox is suggested.
- You will need regular access to a computer with a broadband Internet connection.
- Current anti-virus software must be installed and kept up to date in order to share files without issues.
- At a minimum, you must have Microsoft Office 2013, 2010, or 2007. 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

Pearson LearningStudio (eCollege) Access and Log in Information

This course will be facilitated using Pearson LearningStudio, the learning management system used by Texas A&M University Commerce. To get started with the course, go to:

<http://www.tamuc.edu/myleo.aspx>.

You will need your CWID and password to log in to the course. If you do not know your CWID or have forgotten your password, contact Technology Services at 903.468.6000 or helpdesk@tamuc.edu.

It is strongly recommended that you perform a "Browser Test" prior to the start of your course. To launch a browser test, login to Pearson LearningStudio, click on the 'myCourses' tab, and then select the "Browser Test" link under Support Services.

Pearson LearningStudio Student Technical Support

If at any time you experience technical problems (e.g., you can't log in to the course, you can't see certain material, etc.) please contact the Pearson LearningStudio Help Desk, available 24 hours a day, seven days a week.

The student help desk may be reached by the following means 24 hours a day, seven days a week.

- **Chat Support:** Click on '*Live Support*' on the tool bar within your course to chat with an Pearson LearningStudio Representative.
- **Phone:** 1-866-656-5511 (Toll Free) to speak with Pearson LearningStudio Technical Support Representative.
- **Email:** helpdesk@online.tamuc.org to initiate a support request with Pearson LearningStudio Technical Support Representative.

Accessing Help from within Your Course: Click on the '*Tech Support*' icon on the upper left side of the screen inside the course. You will then be able to get assistance via online chat, email or by phone by calling the Help Desk number noted below.

Note: Personal computer 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, an Internet cafe, or a bookstore, such as Barnes & Noble, etc.

Policy for Reporting Problems with Pearson LearningStudio

Should students encounter Pearson LearningStudio based problems while submitting assignments/discussions/comments/exams, the following procedure **MUST** be followed:

1. Students must report the problem to the help desk. You may reach the helpdesk at helpdesk@online.tamuc.org or 1-866-656-5511
2. Students **MUST** file their problem with the helpdesk and obtain a helpdesk ticket number
3. Once a helpdesk ticket number is in your possession, students should email me to advise me of the problem and to provide me with the helpdesk ticket number
4. At that time, I will call the helpdesk to confirm your problem and follow up with you

Communication and Support

The primary tool to communicate with me is the email tool in Pearson LearningStudio (eCollege). The chat module in Pearson LearningStudio will also be utilized during office hours. Please feel free to email me at Perry.Moler@tamuc.edu, or call me at 903-886-5361 for any questions and concerns.

Academic Dishonesty

Texas A&M University-Commerce will not condone plagiarism in any form. Plagiarism represents disregard for academic standards and is strictly against University policy. Plagiarized work can result in a "0" on a given assignment(s) or an "F" for the course as well as further administrative sanctions permitted under University policy. You may discuss course work and other course materials with

fellow students (except during tests), but it is inappropriate to have another student do your course work or provide you with any portion of it. Guidelines for properly quoting someone else's writings and the proper citing of sources can be found in the APA Publication Manual. If you do not understand the term "plagiarism", or if you have difficulty summarizing or documenting sources, contact your professor for assistance.

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
Gee Library Room 132, Texas A&M University-Commerce
Phone (903) 886-5150 or (903) 886-5835, Fax (903) 468-8148
StudentDisabilityServices@tamuc.edu
[Student Disability Resources and Services](#)

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 *Code of Student Conduct from Student Guide Handbook*). Students are expected to attend all class periods and to be prepared for each class. Students are expected to refrain from any disruptive behaviors during class, which includes but is not limited to working on assignments/projects from another course, reading non-course materials, or using the computer for non-class purposes. Cell phones, iPods, and other electronic devices should be turned off during class.

Non-Discrimination Statement

A&M-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.

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. Quick Outlines Topics & Schedule- More detail is provided in eCollege

Course Schedule

Week #	Starting Day	Module
1	17 Jan	Introduction to Statistics: How and Where Statistics are Used
2	23 Jan	Types of Data and Sampling Considerations
3	30 Jan	Visual Display of Data
4	6 Feb	Describing Data and Central Tendency
5	13 Feb	Measures of Dispersion (Variation)
6	20 Feb	Inferential Statistics: Properties of the Normal Distribution
7	27 Feb	Confidence Intervals
8	6 Mar	Introduction to Hypothesis Testing: Part 1
9	13 Mar	Spring Break
10	20 Mar	Introduction to Hypothesis Testing: Part 1 (cont.)
11	27 Mar	Introduction to Hypothesis Testing: Part 2
12	3 Apr	Introduction to Hypothesis Testing: Part 3

13	10 Apr	F-Distribution: Testing Differences between Variances
14	17 Apr	Introduction to ANOVA
15	24 Apr	Correlation and Causality (Simple Linear Regression)
16	1 May	Measurement Properties
17	8 May	FINAL

Course Information

While the title is *Introduction to Statistics*, we will venture into areas such as Statistical Thinking and Reasoning, improving statistical inquiry, role of questioning to guide problem investigations, and pitfalls to avoid.

The selected text, *Statistical Reasoning for Everyday Life*, is not how to crank through statistical calculations nor pages of “squiggles” (an adage an old instructor of mine used for long winded formulas). It is more focused on how to handle and understand statistical information we encounter as a manager trying to make decisions. The intent is to increase statistical thinking and reasoning with numbers.

The second textbook is *Statistical Analysis: Microsoft Excel 2013*. No introductory statistics class should be taught without data manipulation providing enumerative and graphical output. Excel has some limitations regarding the ease and variety of output, however Excel was selected for this course for three reasons: 1) this is new course content for TMGT 240 and time did not allow for students to acquire and install statistical software, 2) off-campus classes do not have access to the statistical software available on the university network (i.e. Minitab), and 3) Excel is fairly ubiquitous among employers and increasing your skill set with Excel is a positive. This text covers a wide range of applications that provide statistical analysis plus goes beyond being just a “help guide”. In general, every statistical concept will be augmented with data analyses (notice more than one exercise per concept is likely) from this text. A personal confession: While I am competent with commercial statistical software packages such as JMP and Minitab, I am less adept with the conventions of Excel. The exercises in the text will walk you through obtaining an analysis, however, if you have a particular “Excel problem”, use your fellow students or online help (listed in syllabus) first.

To provide on-demand video instruction, I have screened a number of excellent videos on YouTube you will be required to watch. I decided not to reinvent the wheel when some excellent tires are on the market. The videos will introduce and augment each week’s lesson. They will follow the course schedule intent on helping you understand how the calculations work and expand your statistical reasoning and thinking. With a few exceptions, most videos will be less than 30 minutes long, however, more than one video may be required per lesson. You will also be required to comment on

each video. Lastly, the marvels of YouTube offer an almost endless string of comparable videos. If you want to watch one not stipulated in this course outline, I cannot vouch for its accuracy. Venture out at your own risk, but viewing other videos may help you if you struggle with the topic. If a video was particularly helpful, drop me an email with the URL and I will review it.

Lastly, I will include published papers and journal articles pertinent to a topic. These may include a problem case study, an example of industrial application, a management perspective with statistical information, etc. You will be required to read, answer a few questions, and draw conclusions.

PREPARING FOR CLASS

Install Analysis ToolPak to Excel:

<https://support.office.com/en-us/article/Load-the-Analysis-ToolPak-6a63e598-cd6d-42e3-9317-6b40ba1a66b4>

Download datasets from Que Publishing:

<http://www.quepublishing.com/store/statistical-analysis-microsoft-excel-2013-9780789753113>

Choose “downloads”

The screenshot displays the product page for "Statistical Analysis: Microsoft Excel 2013" by Conrad Carlberg. The page includes a search bar, a product image, and several purchase options. A blue arrow points to the "Downloads" tab in the navigation menu.

Statistical Analysis: Microsoft Excel 2013
By Conrad Carlberg
Published Apr 3, 2014 by Que.

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Please download the excel workbook zip file associated with *Statistical Analysis* here.

These datasets will be used in conducting the analyses in the Statistical Analysis: Microsoft Excel 2013 text.