



ENGR 213-001 Engr Probability & Statistics

COURSE SYLLABUS: SPRING 2020

Instructor: Dr. Andrea Graham

Office Location: AG/IT 213 (*Engineering and Technology Building 2nd floor*)

Office Hours: Monday & Wednesday 10:00-11:30am

Tuesday & Thursday 1:00-2:30pm

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COURSE INFORMATION

Course Schedule: Tuesday, Thursday **9:30 AM – 10:45 AM**

Course Location: AG/IT Building 211

Materials – Textbooks

Textbook Required

“Applied Statistics and Probability for Engineers”, D.C. Montgomery and G.C. Runger, 6th Ed., John Wiley & Sons, Inc. ISBN:9781118539712

The syllabus/schedule are subject to change.

Course Description

This course covers the role of statistics in engineering, probability, discrete and continuous probability distributions, joint probability distributions, random sampling and data description, point estimation, and statistical intervals. (Prerequisites: MATH 192 or concurrent enrollment).

Student Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Use statistical methodology and tools in the engineering problem-solving process.
2. Complete and interpret descriptive statistics using numerical and graphical techniques.
3. Understand the basic concepts of probability, random variables, probability distribution, and joint probability distribution.
4. Compute the point estimation of parameters, explain sampling distribution and joint probability distribution.
5. Construct confidence intervals on parameters for a single simple.

COURSE REQUIREMENTS

This course is in web-enhanced format. It is face-to-face based, and also supported by a D2L web page.

Point Distribution

Assessment Type	%
Homework	10
Exam 1	20
Exam 2	20
Exam 3	20
Pop Quizzes	5
Participation, Full Attendance	5
Final Exam	20
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

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Important Notes:

- This course is web enhanced. Assignments will be posted online and have to be submitted under the designated dropbox at D2L. No e-mail submissions for assignments will be accepted; unless there is a technical problem with D2L.
- Do not forget to title the documents as: yourfirstname_your lastname_assignment number
- Late submissions for homework receive zero, since the solution will be provided immediately after the deadline.
- No cellphone use in the classroom unless there is a medical emergency. The computers are only to be used for classroom activity.

Brief Explanation of Course Assessments

Homework: There will be a total of 3 homework assignments. Each homework will help students understand the topic and have practice on solving engineering statistics problems.

Pop-Quizzes: “a short test that a teacher gives to students without warning”
“an unscheduled or unannounced quiz”

(Definitions retrieved from www.merriam-webster.com)

To assess students’ progress, pop-quizzes will be given during the semester. The frequency of these pop-quizzes will be determined by the instructor based on students’ active participation/involvement in class.

Participation, Full Attendance: A student, who attends all class sessions and very participative/involved, will receive 5 points from this category. Each absence is -1 point from the maximum 5 points possible. The instructor will take attendance at each class. Class Attendance Requirement (one lateness of more than 5 minutes = 1/2 absence)

# of Absences	0 – 3	4	5	6	7	>7
Point Deduction	0	- 5	- 10	- 20	- 30	F

I assign extra credits if a student makes an extraordinary contribution to any class session. These extra credits are stored in an external spreadsheet by the instructor. The extra credits will be reflected on students’ overall grade points.

Exams: Details will be announced later. Exams cover all topics that have been covered until that time.

Final Exam: It is a comprehensive exam that covers all topics in the semester. Details will be announced later.

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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® Internet Explorer®	N/A	11
Mozilla® Firefox®	Latest, ESR	N/A

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Browser	Supported Browser Version(s)	Maintenance Browser Version(s)
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 video intensive
 - Video display capable of high-color 16-bit display 1024 x 768 or higher resolution
- For YouSeeU Sync Meeting sessions *8 Mbps* is required.** Additional system requirements found here: <https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements>

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- 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](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/](https://get.adobe.com/reader/)
 - [Adobe Flash Player \(version 17 or later\) https://get.adobe.com/flashplayer/](https://get.adobe.com/flashplayer/)
 - [Adobe Shockwave Player https://get.adobe.com/shockwave/](https://get.adobe.com/shockwave/)
 - [Apple Quick Time http://www.apple.com/quicktime/download/](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

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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

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.

Interaction with Instructor Statement

The instructor will respond to your questions on D2L tools within 24 hours. For urgent questions, and for questions that are not answered within 24 hours, please prefer e-mail correspondence.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures/Policies

- All assignments have to be submitted under the designated dropbox at the D2L website. No e-mail submissions for assignments will be accepted.
- Do not forget to title the documents as: yourfirstname_your lastname_assignment number

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- Late work is not accepted, unless student has an acceptable excuse proven by a doctor's note.
- Attendance is a requirement for this course. The instructor will take attendance at each class. Class Attendance Requirement (one lateness of more than 5 minutes = 1/2 absence)

# of Absences	0 – 3	4	5	6	7	>7
Point Deduction	0	- 5	- 10	- 20	- 30	F

Unless directed and/or approved by the instructor.

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:

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[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 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 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

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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.

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COURSE OUTLINE / CALENDAR

Week #	Week of	Topic	Homework
1	Jan 13	Course Introduction Ch. 1 The Role of Probability & Statistics in Engineering	
2	Jan 20	Ch. 2 Probability	
3	Jan 27	Ch. 2 Probability	
4	Feb 3	Ch. 2 Probability	Homework 1 is due, specific date will be announced
5	Feb 10	EXAM 1 (<i>Tuesday or Thursday, will be determined based on the schedule progress</i>)	
6	Feb 17	Ch. 3 Discrete random variables and probability distributions	
7	Feb 24	Ch. 3 Discrete random variables and probability distributions	
8	Mar 2	Ch. 4 Continuous random variables and probability distributions EXAM 2 (<i>Tuesday or Thursday, will be determined based on the schedule progress</i>)	Homework 2 is due, specific date will be announced
9	Mar 9	SPRING BREAK No class	
10	Mar 16	Ch. 4 Continuous random variables and probability distributions Ch.5 Joint probability distributions	
11	Mar 25	Ch.5 Joint probability distributions	
12	Apr 1	Ch.5 Joint probability distributions	Homework 3 is due, specific date will be announced
13	Apr 8	Ch. 6 Random sampling and data description EXAM 3 (<i>Tuesday or Thursday, will be determined based on the schedule progress</i>)	
14	Apr 15	Ch. 7 Point estimation of parameters	
15	Apr 22	Ch.8 Statistical Intervals for a single sample	
16	April 29	Ch.8 Statistical Intervals for a single sample	
17	May 6	Final Exam Week	

This schedule is tentative. It is subject to change.

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