

Updated 07/18/2023



WACO, TEXAS

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**COURSE SYLLABUS**

**AND**

**INSTRUCTOR PLAN**

**INTRODUCTION TO STATISTICS**

**MATH 1342.L008**

**Dr. DEANNA R. BARNES**

**NOTE: This is a 16-week Linked course.**

# INTRODUCTION TO STATISTICS

MATH 1342.L008

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## **Course Description:**

Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. Use of appropriate technology is recommended. **TI-84 Graphing calculator required.**

## **Prerequisites and/or Corequisites:**

TSI math complete or MATH 0308, or completion of college-level math course or consent of division chair. Semester Hours 3 (3 lec)

## **Course Notes and Instructor Recommendations:**

Math 1342 in an online format involves optional meetings during office hours and mandatory online discussions. Students must complete all homework online, using ALEKS online homework assignments which may be found by logging in at [www.aleks.com](http://www.aleks.com). Homework and exams will be available at this site. Class notes, instructor videos, and discussions will be available in Brightspace.

## **Instructor Information:**

Instructor Name: Deanna R. Barnes  
MCC Email: [dbarnes@mclennan.edu](mailto:dbarnes@mclennan.edu)  
Office Phone Number: 254-299-8810  
Cell Phone Number: 713-459-5045

(Text first, then I will call back. Be sure to tell me who you are and which class you are in. Be sure to include the SECTION NUMBER for your class. For example, 1342.87.)

Office Location: MATH 218

Office/Teacher Conference Hours: Text for Zoom meeting any time 8:00am to 8:00pm M-S

Link to Zoom Meeting Room: [Personal ID Number 2542998810](https://mclennan.zoom.us/j/92542998810)

## **Required Text & Materials:**

Title: *Elementary Statistics*  
Author: Navidi, Monk  
Edition: 4<sup>th</sup> edition  
Publisher: McGraw Hill  
ISBN: 9781265425043

**Required** graphing calculator – TI-83, TI-83 Plus, TI-84, or TI-84 Plus

**MCC Bookstore Website:** <http://www.mclennan.edu/bookstore/>

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## **Methods of Teaching and Learning:**

The best way to approach this course is to work through the material in the order it is presented inside the Component Checklists. Each component is “unlocked” by **checking off every item in the preceding checklist**, starting with the Orientation Checklist. Students may choose to preview/review videos for further learning enhancement. All students will be required to submit homework in ALEKS (detailed below in the Course Grading Information section). Be sure to work through material in the order it appears in each component in the Calendar. Also make note of the times when the workload is heavier than usual and plan accordingly. See the Orientation Document in Brightspace for more detailed information.

## **Course Objectives and/or Competencies:**

Upon completion of Math 1342, the students should be able to:

1. Explain the use of data collection and statistics as tools to reach reasonable conclusions.
2. Recognize, examine and interpret the basic principles of describing and presenting data.
3. Compute and interpret empirical and theoretical probabilities using the rules of probabilities and combinatorics.
4. Explain the role of probability in statistics.
5. Examine, analyze and compare various sampling distributions for both discrete and continuous random variables.
6. Describe and compute confidence intervals.
7. Solve linear regression and correlation problems.
8. Perform hypothesis testing using statistical methods.

## **Course Attendance/Participation Guidelines:**

If a student is not in attendance in accordance with the policies/guidelines of the class as outlined in the course syllabus as of the course census date, faculty are required to drop students from their class roster prior to certifying the respective class roster. A student's financial aid will be re-evaluated accordingly and the student will only receive funding for those courses attended as of the course census date.

Before the 60% point of the semester, a student who is absent for 25% or more of a face-to-face or blended course or who misses 25% or more of assigned work for an online course will be withdrawn from the course with a grade of W. A student may also request to be withdrawn with a grade of W before the 60% point of the semester. After the 60% point of the semester, the student may request to be withdrawn if the student is passing, or be assigned the final grade earned at the end of the semester after grades have been updated to reflect missing work.

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## **Late Work, Attendance, and Make Up Work Policies:**

In order to get the most out of this class and not get confused, it is important that you not fall behind. I will not deduct points for late work but all work must be completed by the last day of class. Any missing work will be recorded as a zero. I will update grades in Brightspace (your official course grade) based upon the due dates. I will record a zero for any missing work but will update your score with what you earn the next time I update grades.

You may be dropped from the course (without further warning) for lack of online participation if you fall more than two components behind on course work. Consequently, you should plan on working in ALEKS daily. Research shows that successful students spend approximately 2 hours working outside of class for every one hour in class. Since our class is a 3 hour class, you should expect to work an additional 6 hours per component outside of class time if you want to be successful. **I am able to track the time you spend working in ALEKS.**

## **Course Outline or Schedule:**

*Below is the name associated with each section covered in the course. Only the section numbers are used in the course calendar below.*

Week	Sec.	Topic	Week	Sec.	Topic
1	1.1	Sampling			<b>Exam 2</b>
	1.2	Types of Data	9	7.1	The Standard Normal Curve
2	1.3	Design of Experiments		7.2	Applications of The Normal Distribution
	1.4	Bias in Studies		7.3	Sampling Distribution & Central Limit Theorem
	2.1	Graphical Summaries for Qualitative Data	10	7.4	The Central Limit Theorem for Proportions
	2.2	Frequency Distributions & Their Graphs		7.6	Assessing Normality
3	2.3	More Graphs for Quantitative Data			<b>Exam 3</b>
	2.4	Graphs Can Be Misleading	11	8.1	Confidence Intervals for Mean $\sigma$ -Known
4	3.1	Measures of Center		8.2	Confidence Intervals for Mean $\sigma$ -Unknown
	3.2	Measures of Spread	12	8.3	Confidence Intervals for Proportions
	3.3	Measures of Position		8.4	Confidence Intervals for Standard Deviations
		<b>Exam 1</b>			
5	4.1	Correlation	13	9.1	Basic Principles of Hypothesis Testing
	4.2	The Least-Squares Regression Line		9.2	Hypothesis Tests for Mean $\sigma$ -Known
	4.3	Features & Limitations of LSR Line	14	9.3	Hypothesis Tests for Mean $\sigma$ -Unknown
6	5.1	Basic Concepts of Probability		9.4	Hypothesis Tests for Proportions
	5.2	The Addition Rule & Rule of Compliments		9.5	Hypothesis Tests for Standard Deviations
7	5.3	Conditional Probability & Multiplication Rule		9.6	Determining Which Method to Use
	5.4	Counting	15		<b>Exam 4</b>
8	6.1	Random Variables			<b>Review for Final Exam</b>
	6.2	Binomial Distribution			<b>Final Exam (Comprehensive)</b>

*Use the calendar below, along with the assignment table above, to see what problems you will turn in for homework. Modules, Chapter Homework and Exams will be completed in ALEKS.*

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Component Due Date	Assignments Due by 11:00pm CST	Component Due Date	Assignments Due by 11:00 pm CST
Component 1 August 25	<a href="#">Discussion 1</a> , Modules 1.1 & 1.2	Component 9 October 20	<a href="#">Discussion 9</a> , Modules 7.1 – 7.2, <a href="#">Chapter 7A Homework</a>
Component 2 September 1	<a href="#">Discussion 2</a> , Modules 1.3 & 1.4, <a href="#">Chapter 1 Homework</a> , Modules 2.1 & 2.2**	Component 10 October 27	<a href="#">Discussion 10</a> , Modules 7.3, 7.4 & 7.6, <a href="#">Chapter 7B Homework</a> <a href="#">Exam 3 (Covers Ch. 7)</a>
Component 3 September 8	<a href="#">Discussion 3</a> , Modules 2.3 & 2.4, <a href="#">Chapter 2 Homework</a>	Component 11 November 3	<a href="#">Discussion 11</a> , Modules 8.1 & 8.2, <a href="#">Chapter 8A Homework</a>
Component 4 September 15	<a href="#">Discussion 4</a> , Modules 3.1 – 3.3**, <a href="#">Chapter 3 Homework</a> , <a href="#">Exam 1 (Covers Ch. 1 – 3)</a>	Component 12 November 10	<a href="#">Discussion 12</a> , Modules 8.3 – 8.4 <a href="#">Chapter 8B Homework</a>
Component 5 September 22	<a href="#">Discussion 5</a> , Modules 4.1 – 4.3 <a href="#">Chapter 4 Homework</a>	Component 13 November 17	<a href="#">Discussion 13</a> , Modules 9.1 & 9.2, <a href="#">Chapter 9A Homework</a>
Component 6 September 29	<a href="#">Discussion 6</a> , Modules 5.1 & 5.2**, <a href="#">Chapter 5A Homework</a>	Component 14 November 24	<a href="#">Discussion 14</a> , Modules 9.3 – 9.6**, <a href="#">Chapter 9B Homework</a> <a href="#">Exam 4 (Covers Ch. 8 &amp; 9)</a>
Component 7 October 6	<a href="#">Discussion 7</a> , Modules 5.3 & 5.4**, <a href="#">Chapter 5B Homework</a>	Component 15 December 1	<a href="#">Final Exam</a>
Component 8 October 13	<a href="#">Discussion 8</a> , Modules 6.1 & 6.2, <a href="#">Chapter 6 Homework</a> , <a href="#">Exam 2 (Covers Ch.4 – 6)</a>	December 5	Grades due to Registrar

## Course Grading Information:

Your course average can be found in Brightspace under “Assessments” and will be calculated as follows:

Discussion Board	20%
Homework (ALEKS)	20%
Modules (ALEKS)	20%
Exams (4)	20%
Final Exam	20%

I will drop your lowest discussion, homework, and exam grade. The comprehensive final exam will NOT be dropped.

## **ALEKS Homework and Modules:**

Each week, you must complete work in ALEKS over the textbook sections, in the form of both modules and homework. See the video in Brightspace to learn more about ALEKS. You can earn 5 Bonus Points on each exam if all Modules and Homework covered on the exam are completed on time. You must earn 100 on all modules to get the five bonus points on the final.

**Modules:** These are adaptive and you will be given credit for any material that you already know based on your Initial Knowledge Check. You must learn 100% of the topics in each ALEKS modules and complete them by the due date in order to earn the bonus points on Exams. As you

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work in ALEKS, you will periodically receive knowledge checks to help you retain what you have learned and also to personalize reviews of these topics throughout the course. **Try your best on the Knowledge Checks.** If you miss problems that you had previously “mastered” you will be given **additional topics to practice until they are mastered.** You have to get three problems in a row correct in order to “pass” a module.

**Homework:** Homework complements the work done in modules. You will want to make sure you have mastered the modules associated with a chapter *before* you attempt the homework. Due dates are listed on each assignment. In order to earn bonus points, you must complete assignments on time. **You may be dropped for lack of participation if you fall more than two components behind on work.**

Having someone else do your online assignments and cheating on tests are both violations of the academic integrity policy and either may result in failing grades and/or being dropped from the class. Infractions such as these will be reported to the administration for tracking and possible disciplinary action.

### **Late Work and Make Up Work Policies:**

In order to get the most out of this class and not get confused, it is important that you not fall behind. I will not deduct points for late work but all work must be completed by the last day of class. Any missing work will be recorded as a zero. I will update grades in Brightspace (your official course grade) based upon the due dates. I will record a zero for any missing work but will update your score with what you earn the next time I update grades.

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### **Student Behavioral Expectations or Conduct Policy:**

Online students are expected to maintain classroom decorum that includes respect for other students and the instructor, prompt and regular discussion participation, and an attitude that seeks to take full advantage of the education opportunity.

### **[Click Here for the MCC Attendance/Absences Policy](https://www.mclennan.edu/highlander-guide/policies.html)**

**(<https://www.mclennan.edu/highlander-guide/policies.html>)**

Click on the link above for the college policies on attendance and absences. Your instructor may have additional guidelines specific to this course.

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## **ACADEMIC RESOURCES/POLICIES**

### **Accommodations/ADA Statement:**

Any student who is a qualified individual with a disability may request reasonable accommodations to assist with providing equal access to educational opportunities. Students should contact the Accommodations Coordinator as soon as possible to provide documentation and make necessary arrangements. Once that process is completed, appropriate verification will be provided to the student and instructor. Please note that instructors are not required to provide classroom accommodations to students until appropriate verification has been provided by the Accommodations Coordinator. For additional information, please visit [www.mclennan.edu/disability](http://www.mclennan.edu/disability).

Students with questions or who require assistance with disabilities involving physical, classroom, or testing accommodations should contact:

[disabilities@mclennan.edu](mailto:disabilities@mclennan.edu) 2542998122 Room  
319, Student Services Center

### **Title IX:**

We care about your safety, and value an environment where students and instructors can successfully teach and learn together. If you or someone you know experiences unwelcomed behavior, we are here to help. Individuals who would like to report an incident of sexual misconduct are encouraged to immediately contact the acting Title IX Coordinator at [titleix@mclennan.edu](mailto:titleix@mclennan.edu) or by calling, Dr. Claudette Jackson, (Accommodations/Title IX) at (254) 299-8465. MCC employees are mandatory reporters and must report incidents immediately to the Title IX Coordinator. Individuals may also contact the MCC Police Department at (254) 299-8911 or the MCC Student Counseling Center at (254) 299-8210. The MCC Student Counseling Center is a

confidential resource for students. Any student or employee may report sexual harassment anonymously by visiting <http://www.lighthouse-services.com/mclennan/>. Go to McLennan's Title IX webpage at [www.mclennan.edu/titleix/](http://www.mclennan.edu/titleix/). It contains more information about definitions, reporting, confidentiality, resources, and what to do if you or someone you know is a victim of sexual misconduct, gender-based violence or the crimes of rape, acquaintance rape, sexual assault, sexual harassment, stalking, dating violence, or domestic violence.

### **Student Support/Resources:**

MCC provides a variety of services to support student success in the classroom and in your academic pursuits to include counseling, tutors, technology help desk, advising, financial aid, etc. A listing of these and the many other services available to our students is available at <http://www.mclennan.edu/campus-resource-guide/>

Academic Support and Tutoring is here to help students with all their course-related needs. Specializing in one-on-one tutoring, developing study skills, and effectively writing essays. Academic Support and Tutoring can be found in the Library and main floor of the Learning Commons. This service is available to students in person or through Zoom. You can contact the Academic Support and Tutoring team via Zoom or email ([ast@mclennan.edu](mailto:ast@mclennan.edu)) by going to our website (<https://www.mclennan.edu/academic-support-and-tutoring/>).

College personnel recognize that food, housing, and transportation are essential for student success. If you are having trouble securing these resources or want to explore strategies for balancing life and school, we encourage you to contact either MCC CREW – Campus Resources Education Web by calling (254) 299-8561 or by emailing [crew@mclennan.edu](mailto:crew@mclennan.edu) or a Success Coach by calling (254) 299-8226 or emailing [SuccessCoach@mclennan.edu](mailto:SuccessCoach@mclennan.edu). Both are located in the Completion Center located on the second floor of the Student Services Center (SSC) which is open Monday-Friday from 8 a.m.-5 p.m.

Paulanne's Pantry (MCC's food pantry) provides free food by appointment to students, faculty and staff. To schedule an appointment, go to [https://mclennan.co1.qualtrics.com/jfe/form/SV\\_07byXd7eB8iTqJg](https://mclennan.co1.qualtrics.com/jfe/form/SV_07byXd7eB8iTqJg). Both the Completion Center and Paulanne's Pantry are located on the second floor of the Student Services Center (SSC).

### **MCC Foundation Emergency Grant Fund:**



Unanticipated expenses, such as car repairs, medical bills, housing, or job loss can affect us all. Should an unexpected expense arise, the MCC Foundation has an emergency grant fund that may be able to assist you. Please go to

<https://www.mclennan.edu/foundation/scholarships-and-resources/emergencygrant.html>

to find out more about the emergency grant. The application can be found at

[https://www.mclennan.edu/foundation/docs/Emergency\\_Grant\\_Application.pdf](https://www.mclennan.edu/foundation/docs/Emergency_Grant_Application.pdf).

### **MCC Academic Integrity Statement:**

Go to [www.mclennan.edu/academic-integrity](http://www.mclennan.edu/academic-integrity) for information about academic integrity, dishonesty, and cheating. The unauthorized use of artificial intelligence (AI) for classwork can be a violation of the College's General Conduct Policy. Whether AI is authorized in a course and the parameters in which AI can be used in a course will be outlined by each instructor.

### **Minimum System Requirements to Utilize MCC's D2L|Brightspace:**

Go to <https://www.mclennan.edu/center-for-teachingandlearning/FacultyandStaffCommons/requirements.html> for information on the minimum system requirements needed to reliably access your courses in MCC's D2L|Brightspace learning management system.

### **Minimum Technical Skills:**

Students should have basic computer skills, knowledge of word processing software, and a basic understanding of how to use search engines and common web browsers.

### **Backup Plan for Technology:**

In the event MCC's technology systems are down, you will be notified via your MCC student email address. Please note that all assignments and activities will be due on the date specified in the Instructor Plan, unless otherwise noted by the instructor.

### **Email Policy:**

McLennan Community College would like to remind you of the policy (<http://www.mclennan.edu/employees/policy-manual/docs/E-XXXI-B.pdf>) regarding college email. All students, faculty, and staff are encouraged to use their McLennan email addresses when conducting college business.

A student's McLennan email address is the preferred email address that college employees should use for official college information or business. Students are

expected to read and, if needed, respond in a timely manner to college emails. For more information about your student email account, go to [www.mclennan.edu/studentemail](http://www.mclennan.edu/studentemail).

**Instructional Uses of Email:**

Faculty members can determine classroom use of email or electronic communications. Faculty should expect and encourage students to check the college email on a regular basis. Faculty should inform students in the course syllabus if another communication method is to be used and of any special or unusual expectations for electronic communications.

If a faculty member prefers not to communicate by email with their students, it should be reflected in the course syllabus and information should be provided for the preferred form of communication.

**Email on Mobile Devices:**

The College recommends that you set up your mobile device to receive McLennan emails. If you need assistance with set-up, you may email [Helpdesk@mclennan.edu](mailto:Helpdesk@mclennan.edu) for help.

You can find help on the McLennan website about connecting your McLennan email account to your mobile device:

- [Email Setup for iPhones and iPads](#)
- [Email Setup for Androids](#)

**Forwarding Emails:**

You may forward emails that come to your McLennan address to alternate email addresses; however, the College will not be held responsible for emails forwarded to an alternate address that may be lost or placed in junk or spam filters.

For more helpful information about technology at MCC, go to [MCC's Tech Support Cheat Sheet](#) or email [helpdesk@mclennan.edu](mailto:helpdesk@mclennan.edu).

**Disclaimer:**

The resources and policies listed above are merely for informational purposes and are subject to change without notice or obligation. The College reserves the right to change policies and other requirements in compliance with State and Federal laws. The provisions of this document do not constitute a contract.