

COLLIN COLLEGE

COURSE SYLLABUS

Course Information

Course Number: MATH 1342

Course Title: Elementary Statistical Methods

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. Graphing calculator required. Lab required.

Course Credit Hours: 3
Lecture Hours: 3
Lab Hours: 1

Prerequisite: Meet TSI college-readiness standard for Mathematics; or equivalent

Student Learning Outcomes:

- **State-mandated Outcomes:** Upon successful completion of this course, students will:
 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. (Empirical/Quantitative Skills)
 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. (Critical Thinking, Communication Skills)
 8. Perform hypothesis testing using statistical methods. (Critical Thinking, Communication Skills)

Withdrawal Policy: See the current *Collin Registration Guide* for last day to withdraw.

Collin College Academic Policies: See the current *Collin Student Handbook*.

Americans with Disabilities Act Statement: Collin College will adhere to all applicable federal, state and local laws, regulations and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to contact the ACCESS office, SCC-D140 or 972.881.5898 (V/TTD: 972.881.5950) to arrange for appropriate accommodations. See the current *Collin Student Handbook* for additional information.

INSTRUCTOR INFORMATION

Instructor:	Marcus Urban	Course Number:	MATH 1342.F01 (CRN 32812)
Office Number:	LH 158	Meeting Time:	Monday, Wednesday 3:15 to 4:30
Office Hours:	By appointment	Classroom:	LH 114
Email:	MUrban@collin.edu		
Census Date:	January 29	Spring Break:	March 12–18
Last Date to Withdraw:	March 9	Final Exam Week:	May 7–13

Course Resources: (1) *Statistics: Informed Decisions Using Data*, 5th edition, Sullivan, Pearson Education, 2017, ISBN 9780134136783; and (2) MyStatLab access code for online assignments

Supplies: TI-84 or TI-83 graphing calculator. Calculators with computer algebra systems (e.g. TI-89, TI-82) are not permitted on tests, nor may students use a cell phone calculator or share calculators.

Attendance Policy: Attendance is important for success in this course. You are expected to come to class with pencil, paper, and calculator. If you are unable to attend class, it is your responsibility to obtain missed material or notes. From time to time, it may be necessary for a student to leave class early due to illness or personal matters, but this should not be a regular occurrence. When large numbers of students leave class early, it is disruptive.

Method of Evaluation:

- 10% **Homework:** Homework will be completed through MyStatLab.
- 10% **Lab Assignments:** Lab Assignments will be posted on Canvas. You are responsible for printing and completing them.
- 5% **Attendance and Participation:** If you attend class for the full session and participate, your score will be 100. Up to 4 sessions may be missed without affecting this component of the grade. Absences in excess of 4 will require consultation with the instructor.
- 55% **Average of 4 Tests:** If you know ahead of time that you will have to miss a test, contact me in advance so that we can make arrangements. Extreme well-documented emergencies will be taken into consideration on an individual basis. Make-up tests will **not** be given in the testing center.
- The lowest of the 4 test scores will be dropped. If you miss a test during the semester, that will be the test score that is dropped.
- 20% **Comprehensive Final Exam:** All students in MATH 1342 take a multiple-choice final exam written by the math department. Review problems will be provided.

The semester average will be rounded to the *nearest integer* before the letter grade is assigned.

Grading Scale: 90–100 = A, 80–89 = B, 70–79 = C, 60–69 = D, 0–59 = F.

MyStatLab (MSL)

- For this course, access MyStatLab through the menu item within the Canvas course. You will **not** need a separate MSL course ID. (Do not confuse this with an access code, which you will need to purchase.)
- The due dates reflect what you should have completed if you are keeping up with the course.
- Even if you cannot finish an assignment, at least attempt one problem before the *due date*. You should see a number for the assignment score, possibly 0%, rather than *no score*. This is very important because several features only work if you have a numeric score:
 - There will be an unspecified period (of at least one day) after the due date during which you will be able to continue to work on an assignment and improve your score. MSL refers to this as the *final submission deadline*.
 - After the final submission deadline, you will be able to review and rework problems for practice without credit.
 - If you have an extenuating circumstance, and I approve an extension, it is much easier to grant if you have attempted at least one problem.

Tests 1–4

- *Study problems* (additional practice problems) will be provided about a week before each test. You should not rely on these as the sole source of preparation.
- The tests may be multiple choice, open-response, or a combination.
- Make sure to bring a working calculator or borrow one from the library.
- You will not need any Scantron forms.

Preparing for Class

- Make note of any problems you would like to discuss. For example, “MSL section 2.1 problem 7” or “item 3 on the study problems.”
- Consult the course calendar to see what activities and topics are planned for class.
- Preview the textbook sections and course notes. You should be able to answer these questions before you attend class:
 - What are the topics we are covering? — given in the section title
 - What skills am I expected to acquire? — stated as *objectives* at the beginning of the section and repeated in subsection titles

Additional Math Resources:

1. Math Lab at all campuses: Staffed with student tutors, as well as some faculty tutors. TI calculators are available for use in the lab. A private tutor list is available in the Math Lab.

Central Park Campus	Math Lab B336	972-548-6896
Preston Ridge Campus	Math Lab F148	972-377-1639
Spring Creek Campus	Math Lab D203	972-881-5921

2. Free tutoring assistance (group and online) is also available from the ACCESS office. Call 972-881-5898 for scheduling and availability, or see <http://www.collin.edu/studentresources/tutoring> for more information.
3. Library: Calculators can be borrowed for up to 4 hours. Contact Library personnel to confirm.

Please check your CougarMail daily. This is how the college and professors communicate with you.

Section 51.907 of the Texas Education Code: Beginning with first-time-in-college freshman fall 2007, students are limited to 6 withdrawals (grade of W) for their undergraduate career, including any course a transfer student has withdrawal from at another Texas institution of higher education. Certain exceptions apply. See an advisor for details.

Classroom Etiquette: Ear buds should not be used during class. Please set your cell phone not to make noise or vibrate during class. Text messaging, playing games, listening to music using ear buds, and so forth during class are not acceptable. Use of a cell phone or computer for purposes directly related to the class may be permitted at the instructor's discretion.

Class Format: At the beginning of class, there will be an opportunity for questions. Please make a note of problems or other issues you would like discuss. Next, we will cover new material and work a few problems together. At the end of class, there will be a "quiz" over the material. You will be allowed to use notes, work together, and ask the instructor for help during the quiz. The class time allocation may be adjusted, as needed.

Contacting Instructor: It is generally much easier to reach me by email. However, several laws, FERPA in particular, limit the disclosure of confidential student information, including student grades. Collin College policy is that faculty are not to discuss grades over the phone.

Course Requirements: Class attendance, completion of homework assignments and labs, and complete required exams.

Religious Holy Days: In accordance with section 51.911 of the Texas Education Code, the college will allow a student who is absent from class for the observance of a religious holy day to take an examination or complete an assignment scheduled for that day within a reasonable time. A copy of the state rules and procedures regarding holy days and the form for notification of absence from each class under this provision are available from the Admissions and Records Office. Please refer to the current *Collin Student Handbook*.

Academic Honesty: Please see section 7-2.2 of the *Collin Student Handbook*. Contact the Dean of Students at 972-881-5771 for the student disciplinary process and procedures. If a student is found responsible for academic dishonesty, a penalty ranging from a 0 on the assignment or exam (which will not be replaced by the final exam score) to an F in the course will be assigned based on the instructor's interpretation of the severity of the situation. This supersedes the information contained in Method of Evaluation.

Tentative schedule for MATH 1342 (Fall 2017)*

Week	Date	Scheduled Items	Notes
1	1/17	1.1: Introduction to the Practice of Statistics 1.2: Observational Studies versus Designed Experiments 1.3: Simple Random Sampling 1.4: Other Effective Sampling Methods 1.5: Bias in Sampling	
2	1/22	2.1: Organizing Qualitative Data 2.2: Organizing Quantitative Data	
	1/24	2.3: Additional Displays of Quantitative Data 2.4: Graphical Misrepresentations of Data 3.1: Measures of Central Tendency	
3	1/29	3.2: Measures of Dispersion 3.3: Grouped Data Lab 1 Due	Census date: 1/29
	1/31	3.4: Measures of Position and Outliers 3.5: The Five-Number Summary and Boxplots	
4	2/5	5.1: Probability Rules Review for Test 1	
	2/7	Test 1: 1.1–1.5, 2.1–2.4, 3.1–3.5	
5	2/12	5.2: Addition Rule and Complements 5.3: Independence and the Multiplication Rule	
	2/14	5.4: Conditional Probability and the General Multiplication Rule	
6	2/19	5.5: Counting Techniques 5.6: Review of Counting and Probability	
	2/21	6.1: Discrete Random Variables 6.2: Binomial Probability Distribution	
7	2/26	Review for Test 2 Lab 2 Due	
	2/28	Test 2: 5.1–5.6, 6.1, 6.2	
8	3/5	7.1: Properties of the Normal Distribution 7.2: Applications of the Normal Distribution	
	3/7	7.3: Assessing Normality	Last date to withdraw: 3/9
		Spring Break	

Week	Date	Scheduled Items	
9	3/19	8.1: Distribution of the Sample Mean	
	3/21	8.2: Distribution of the Sample Proportion Lab 3 Due	
10	3/26	9.1: Estimating a Population Proportion	
	3/28	9.2: Estimating a Population Mean Review for Test 3	
11	4/2	Test 3: 7.1–7.3, 8.1, 8.2, 9.1, 9.2	
	4/4	10.1: Language of Hypothesis Testing 10.2: Hypothesis Tests for a Population Proportion	
12	4/9	10.3: Hypothesis Tests for a Population Mean	
	4/11	11.1: Inference about Two Population Proportions	
13	4/16	11.2: Inference about Two Means, Dependent Samples Lab 4 Due	
	4/18	11.3: Inference about Two Means, Independent Samples	
14	4/23	4.1: Scatter Diagrams and Correlation Review for Test 4	
	4/25	Test 4: 10.1–10.3, 11.1–11.3	
15	4/30	4.2: Least-Squares Regression	
	5/2	Review for Final Exam	
16		Final Exam on Monday, May 7, 3:15 PM to 5:15 PM	

*Notes:

- (1) The schedule is subject to change, as necessary.
- (2) Due dates for the MyStatLab assignments are available in MyStatLab.
- (3) The labs will be posted on Canvas at least one week before they are due.