



## **STAT 107 - Business Statistics**

### **Course Information:**

Semester	: May 30, 2022 – July 1, 2022
Credit	: 4
Teaching Hours	: 50 Hours
Location	: Online
Professor	: TBA
Email	: TBA

### **Course Description:**

This purpose of this course is to provide students with statistical tools needed by managers. The course emphasizes understanding the process associated with statistical decisions, defining and formulating problems, analyzing the data, and using the results in decision making. Students who have laptops with Excel are invited to bring them to class.

### **Learning Outcomes:**

General goals:

1. Students are able to acquire and use "Deductive Reasoning" (from general to specific") and "Inductive Reasoning" (from specific to general) in a most efficient and effective manner throughout the course.
2. Students are able to learn so-called "Evidence-Based Statistics" throughout the course.

Specific goals:

1. Students are able to understand the basic concepts, definitions, and interpretations of statistical data and analyses.
2. Students are able to acquire the basic yet substantial knowledge of such four components as Descriptive Statistics, Probability, Inferential Statistics, and their Business Applications (Time-Series Analysis).

Students are able to focus on the various business applications of the topic to the functional area of business, the interpretation of results, the presentation of assumptions, the evaluation of the assumptions, and the discussion of what should be done if the assumption is violated. These points are particularly important in regression, forecasting, and hypothesis testing.

### **Requirements:**

1. Plan on spending at minimum of 2 hours of uninterrupted time preparing for each class (and possibly more for the first day of a new topic area) and absolute minimum of 3 hours per week doing homework, reviewing other class materials.
2. It is very important that you familiarize yourself with the entire semester class schedule now, so that you can plan your schedules ahead for weeks when you may have multiple exams or other due dates. Let your instructor know, in advance, if you will miss a class and the reason for missing the class.



NOTE: In order to perform well in this class, extensive preparation is required prior to each class meeting. In addition, over the course of the semester, students are expected to make their best efforts to follow the schedule listed in the syllabus. However, depending on class progress, the syllabus may be adjusted. Any changes of the syllabus will be announced in class.

**Texts and Materials:**

Text: Basic Business Statistics, 13th edition, by Berenson, Levine, and Szabat, Pearson  
ISBN-13: 978-0321870025  
ISBN-10: 0321870026

**Class Format:**

This is an online class for the summer, which will provide lectures, videos, and organized discussions that allow students the possibility to learn the material from different perspectives. The instructor will be available online through online meeting platforms like Zoom to help with student's questions and concerns about the courses. Quizzes and problem sets will be uploaded on Blackboard. We will use Blackboard discussion board to discuss regularly.

**Course Schedule:**

Week	Date	Topic	Date	Topic
1	May 30	Introduction to Statistics	May 31	Histograms and Frequency Distribution
1	June 1	Mean, Median, and Mode/Variation	June 2	Standard Deviation / Sampling Distribution
1	June 3	Probability/Conditional Probability		
2	June 6	Decision Trees	June 7	Application Examples
2	June 8	Review Class for Exam #1	June 9	Exam #1
2	June 10	Normal Distribution		
3	June 13	Standard Error of Distribution	June 14	Linear Correlation
3	June 15	Linear Regression	June 16	Regression ANOVA
3	June 17	Regression Example		
4	June 20	Multiple Regression And Example	June 21	Application for Regression
4	June 22	Review Class for Exam 2	June 23	Exam #2



4	June 24	Hypothesis Testing		
5	June 27	Differences in Means	June 28	Estimation and Forecasting
5	June 29	Capacity Planning Decisions	June 30	Review Class for Exam #3
5	July 1	Exam #3		

### Course Assessment/Grading Weights:

Your STAT 107 grade is based on homework, quizzes, three exams, and class participation.

Exam 1	20%	Quizzes	20%
Exam 2	20%	Professionalism & Participation	10%
Exam 3	30%	Total	100%

### Exams:

There will be three exams. As the dates for the three exams are specified in the syllabus, it is expected that all students will be at exams AS SCHEDULED. If a student fails to take the exam at the scheduled time, the student will receive a score of zero on that exam. Make-up exams will only be given under extreme circumstances and only if previously arranged with me. All illnesses must be documented. No make-up is permitted for reasons such as being late for the class, leaving class early, forgetting the exam date/time, car broken, traffic jams, work/travel related excuses, and conflicts with other classes/exams. If you know that you will not be able to take an exam at the time scheduled on this syllabus, please drop the course.

### Quizzes:

There will be three quizzes throughout the semester. The dates for each quiz have been specified on the last page of the syllabus and the quiz will be given via Connect. Makeup quizzes WILL NOT be given.

### Academic Integrity:

It is expected that all students will uphold the academic integrity. All work submitted for this course should be completed only by the student being evaluated unless otherwise indicated in the assignment (e.g., group assignment). Students caught cheating or plagiarizing will, at my discretion, fail either the assignment/exam in question or the course, and the incident will be reported to the Dean's office for University Sanctions.

Plagiarism includes copying someone else's words and claiming them as your own, paraphrasing someone else's words and/or ideas and claiming them as your own, or collaborating excessively with another person or persons and claiming the work as solely your own. Plagiarism on any assignment will, at minimum, result in an "F" for the assignment. I reserve the right to pursue further disciplinary action if appropriate.

### Course Expectations

#### Grading Scale:

A	94% of total points	A-	90-93.99% of total points
B+	87-89.99% of total points	B	84-86.99% of total points
B-	80-83.99% of total points	C+	77-79.99% of total points
C	74-76.99% of total points	C-	70-73.99% of total points
D+	67-69.99% of total points	D	64-66.99% of total points
D-	60-63.99% of total points	F	<60% of total points



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Pass/Fail: need 60% or higher to pass.

Any student not fulfilling his/her academic obligations for this course will receive a failing grade for the semester. Incompletes will only be granted under the most extreme of circumstances and only if agreed upon by the instructor before the completion of the semester. Any issues regarding such a situation will be referred to the Dean's office.

### **Workload Expectations**

For our accreditation, it is essential that all Framingham State University credit courses follow the Federal Definition of credit hour: for every one hour of classroom or direct faculty instruction, a minimum of two hours of out-of-class student work is required. Since the summer courses meet for two contact hours daily (10 contact hours of classroom time weekly), the expectation is that students spend 20 hours per week doing out-of-class work. For the five week 4-credit hour course, this reflects 50 hours of classroom time and 100 hours of out-of-class time since the credit hour is defined as 50 minutes.

### **Academic Honesty Policy**

**Framingham State University's policy regarding academic honesty** (taken from the [undergraduate catalog](#)):

“Integrity is essential to academic life. Consequently, students who enroll at Framingham State University agree to maintain high standards of academic honesty and scholarly practice. They shall be responsible for familiarizing themselves with the published policies and procedures regarding academic honesty. In addition to the required statement, faculty members shall, at their discretion, include in the course syllabus additional statements relating the definition of academic honesty to their courses. Infractions of the Policy on Academic Honesty include, but are not limited to: 1. Plagiarism: claiming as one's own work the published or unpublished literal or paraphrased work of another. It should be recognized that plagiarism is not only academically dishonest but also illegal; 2. Cheating on exams, tests, quizzes, assignments, and papers, including the giving or acceptance of these materials and other sources of information without the permission of the instructor(s); 3. Unauthorized collaboration with other individuals in the preparation of course assignments; 4. Submitting without authorization the same assignment for credit in more than one course; 5. Use of dishonest procedures in computer, laboratory, studio, or field work; 6. Misuse of the University's technical facilities (computer machinery, laboratories, media equipment, etc.), either maliciously or for personal gain; 7. Falsification of forms used to document the academic record and to conduct the academic business of the University.”

### **U.S. COPYRIGHT LAW**

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