

Framingham State University

Syllabus

MATH 117: INTRODUCTION TO STATISTICS

General Information:

Semester: Summer 2018(July 2nd,2018-August 3rd,2018)

Credit: 4

Teaching Hours: 50 Hours

Time:2 hours/day, Mon.-Fri.

Professor Name: Joann Gu

Home Institution: Framingham State University

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COURSE DESCRIPTION

MATH117: This introductory course provides the students with statistical concepts and models used to conducting quantitative research for sociology students. Students will explore statistical methods for understanding and manipulating data, planning on data analysis, testing hypothesis, and report statistical analysis results. Students will also be prepared to get hands-on experiences with data analysis using computer software. Credit: 4-hrs.

Prerequisites: Basic math.

The Goal of this course is for students to develop statistical literacy in social and other related fields of research and be able to understand and conduct basic data analysis.

Learning Objectives By the end of the course, students should be able to:

- Develop an appreciation for the role of statistics in social research and in everyday life;
- Have a reasonable knowledge about the basic language of descriptive and inferential statistics;
- Understand the conceptual basis for statistics;
- Develop skills to organize and present data using fundamental statistics;
- Conduct basic statistical analysis with SPSS and interpret the results;
- Develop an appreciation for the quality of research and statistics discussed in social research literature, government publications and mass media.

Course Requirements: The content of this course will be delivered in the forms of readings, lectures, class discussions, assignments, and exams. A decent calculator (not the ones on cellphone) and a USB flash drive (>1 GB) are needed in all classes. It is important that you finish reading the chapter contents before each class. You need to have a plan to obtain class notes from other students for the subjects covered should you be absent from any classes.

Class Participation: Active participation in class is an effective way to learn new concepts and internalize knowledge. Needless to say, attendance is an essential part of this participation. Tardiness not only affect the attendance but also considered disrespectful for the class unless for some compelling reasons.

Classroom Behavior: Classroom behavior that distracts students and faculty is not acceptable, such as using a cellphone, surfing the internet, checking email, and talking to other students when class is not in the discussion mode, etc.

In-class Assignments and Homework: Class exercises and homework will be given at the end of each chapter. This may include some computer lab work (using SPSS software). Students are encouraged to do the homework in groups to further the discussions and help with each other. However individual learning is the goal for doing these exercises. We will go over the outcome of these assignments in class or the next

class period along with discussion of any questions and issues. Credit is given based on the effort not the number of correct answers.

Exams: There will be a midterm and a final exam. They will be in-class, closed-book, and individual work. All information from the readings and all material covered during lectures are fair game for the exams. The two exams are not “cumulative”, however the later course materials are heavily rely on earlier course material. Make-up exams will only be given in the cases of documented serious illness or serious personal emergency.

Computer Software: A statistical software SPSS (Statistical Package for the Social Sciences www.spss.com) will be introduced to the class in addition to MS Excel.

EVALUATION OF PERFORMANCE Grades will be determined by the performance of in class participation, assignments, quizzes, and the final exam. All the graded work will be scored out of 100, and the final evaluation for the course work will be weighed as follows:

- Class participation 25%
- Daily assignment/homework 15%
- Midterm: 30%
- Final exam: 30%

Grades will be assigned according to the following scale:

A 94 - 100 points
A- 90 - 93
C 73 - 76
C- 70 - 72
B+ 87 - 89
B 83 - 86
B- 80 - 82
C+ 77 - 79
D+ 67 - 69
D 63 - 66
D- 60 - 62
F 59 or lower

REQUIRED TEXT

The Essentials of Statistics: A Tool for Social Research, 4th Edition Author: Joseph F. Healey
Publisher: Cengage Learning | Copyright Year: 2016

ISBN-13: 978-1305093836
ISBN-10: 1305093836

Rental: <https://www.vitalsource.com/referral?term=9781305445741>
(120 days \$29.28 or 180 days \$33.49)

COURSE SCHEDULE (subject to adjustment)

Last update: 6/16/2018

Week	Date	Class Topics	Reading
1	July 2	Course introduction Syllabus & logistics Survey Basic math MS Excel & SPSS	
1	July 3	Role of statistics in the research process Research terminologies Descriptive vs. inferential statistics	Healey CH1
1	July 4	The Levels of measurement	Healey CH1
1	July 5	Basic Descriptive Statistics Tables, and Graphs	Chapter 2
1	July 6	Summary Chapters 1-2	
2	July 9	Measures of Central Tendency	Chapter 3
2	July 10	Measures of Central Tendency	Chapter 3
2	July 11	Measures of Dispersion	Chapter 4
2	July 12	Measures of Dispersion	Chapter 4
2	July 13	Summary Chapters 3-4	
3	July 16	The Normal Curve	Chapter 5
3	July 17	The Normal Curve	Chapter 5
3	July 18	Inferential Statistics	Chapter 6
3	July 19	Review for Midterm	
3	July 20	Midterm Exam	
4	July 23	Hypothesis Testing I: The One-Sample Case	Chapter 7
4	July 24	Hypothesis Testing I: The One-Sample Case	Chapter 7
4	July 25	Hypothesis Testing II: The Two-Sample Case	Chapter 8
4	July 26	Hypothesis Testing II: The Two-Sample Case	Chapter 8
4	July 27	Hypothesis Testing II: The Analysis of Variance	Chapter 9
5	July 30	Hypothesis Testing IV: Chi Square	Chapter 10
5	July 31	Bivariate Analysis - Correlation	Chapter 12
5	Aug 1	Partial Correlation and Multiple Regression	Chapter 13
5	Aug 2	M Regression and Course Summary	Chapter 13
5	Aug 3	Final Exam	

Class Policies

All students are expected to be familiar with the academic regulations, including those regarding Academic Integrity, for Salem State University as published in the university catalog.

Academic Integrity

The University assumes that all students come to Framingham State University with serious educational intent and expects them to be mature, responsible individuals who will exhibit high standards of honesty and personal conduct in their academic life. All members of the Framingham State University academic community have a responsibility to ensure that scholastic honesty and academic integrity are safeguarded and maintained. Cheating and plagiarism are unfair, demoralizing, and demeaning to all of us. Cheating, plagiarism, and collusion in dishonest activities are serious acts which erode the University's educational role and cheapen and diminish the learning experience not only for the perpetrators, but also for the entire community. It is expected that Framingham State University students will understand and subscribe to the ideal of academic integrity and that they will be willing to bear individual responsibility for their work. Materials (written or otherwise) submitted to fulfill academic requirements must represent a student's own efforts.

More specifically, here are some examples of academic dishonesty:

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, test, 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.

Please refer to definition of plagiarism and cheating found on the FSU website:

http://catalog.framinghamstat.edu/content.php?catoid=19&navoid=2098#Academic_Integrity

Critical Emergencies

In the event of a critical emergency, please refer to the alternative educational plans for this course. Students should review the plans and gather all required materials before an emergency is declared.

Equal Access

Framingham State University is committed to providing equal access to the educational experience for all students in compliance with Section 504 of The Rehabilitation Act and The Americans with Disabilities Act and to providing all reasonable academic accommodations, aids and adjustments. Any student who has a documented disability requiring an accommodation, aid or adjustment should speak with the instructor immediately. Students with disabilities who have not previously done so should provide documentation to and schedule an appointment with Disability Services and obtain appropriate services.

Statement of Inclusivity

This class respects and welcomes students of all backgrounds, identities, and abilities. If there are circumstances that make our learning environment and activities difficult, if you have medical information that you need to share with me, or if you need specific arrangements, please let me know. I am committed to creating an effective learning environment for all students, but I can only do so if you discuss your needs with me as early as possible. I promise to maintain the confidentiality of these discussions.