FITCHBURG STATE UNIVERSITY

MATH 1700
Applied Statistics
Online; Summer 2020
Number of Credit Hours: 3

Instructor: **TBD**
Office:
Telephone:
E-mail:
Office Hours:

OFFICIAL COURSE DESCRIPTION: Methods of data collection, organization and interpretation, sampling, probability, estimation, and testing are applied to areas including biology, business, medicine, economics, and education.
NOTE: Credit is not awarded for both MATH 1700 and MATH 1800.

COURSE GOALS AND LEARNING OBJECTIVES:

Course Goal:
To provide the student with a basic understanding and working knowledge of elementary statistics as it applies to everyday life.

Course Objectives
At the end of the course, the successful student will be able to:

Introduction to Statistics
1. Understand the difference between descriptive and inferential statistics.
2. Know the uses and possible abuses of statistics
3. Have an overview of what the course is about

Descriptive Statistics
1. Know how to construct pictures of data such as histograms, frequency polygons, ogives and pie charts.
2. Understand and compute various measures of central tendency such as mean, median, mode, midrange and weighted mean.
3. Know how to compute the mean of a frequency table.
4. Understand and compute various measures of dispersion such as range, variance and standard deviation.
5. Understand measures of relative standing by being able to compute the percentile of a particular score of sample data as well as finding a score for a specific percentile.

Probability
1. Understand the difference between empirical and classical probability.
2. Understand the fundamentals of classical probability theory.

Probability Distributions
1. Understand the concept of discrete and random variables.
2. Know how to compute the mean, variance and standard deviation for a discrete probability distribution
3. Recognize the differences and properties of various distribution shapes.

Normal Probability Distributions
1. Understand the properties of the standard normal distribution and non-standard normal distribution.

2. Understand the concept of standard scores.
3. Use knowledge of the normal distribution to approximate the binomial distribution
4. Understand and make use of the Central Limit Theorem.

Testing Hypotheses

Know how to perform the following one-sample hypotheses tests for:

1. Means (σ not known)
2. Proportions

Correlation and Regression

Inferences from Two Samples

Other topics will be covered as time allows

Student Resources: MyStatLab is an interactive website (created by the publisher) that has practice exercises and explanations and practice tests for each section of the text. All homework and exams will be given using MyStatLab

INSTRUCTOR'S ATTENDANCE POLICY:

There are no on campus meetings. The final exam will be given using an remote proctoring company you must have access to a computer with a camera and microphone

TEXTS: Elementary Statistics 13th Edition, Mario F. Triola, Pearson/Addison Wesley, 2018; ISBN: 978-0-13-446245-5. You are required to have MyStatLab access code which you can purchase online from the publisher.

ASSESSMENTS/COURSE REQUIREMENTS:

FINAL PROJECT/EXAM DESCRIPTION:

COURSE OUTLINE:

Course Outline: Chapters 1- 10 will be covered. In some cases not all the material in an assigned chapter will be covered. All material will be covered as time allows.

Tentative Course Schedule

Chapter 1: Introduction of Statistics

Intro to Course/Study Skills
1.2 Statistical thinking
1.3 Types of data
1.4 Critical thinking

Chapter 2: Summarizing and Graphing Data

2.2 Frequency Distributions
2.3 Histograms
2.4 Statistical Graphs

Exam chapters 1-2

Chapter 3: Statistics for Describing, Exploring and Comparing Data

3.2 Measure of Center
3.3 Measure of Variation
3.4 Measures of Relative Standing

Exam chapters 3

Chapter 4: Probability

4.2 Basic concepts of probability
4.3 Addition Rule
4.4 Multiplication Rule: Basics
4.5 Multiplication Rule: Complements and Conditionals

Chapter 5: Discrete Probability Distributions

5.2 Probability Distributions

Exam chapters 4 & 5

Chapter 6: Normal Probability Distributions

6.2 Standard Normal Distribution
6.3 Application of Normal Distributions
6.5 Central Limit Theorem

Exam chapter 6

Chapter 7: Estimates and Sample Sizes

7.2 Estimating a Population Proportion
7.3 Estimating Population Mean

Chapter 8: Hypothesis Testing

8.2 Basics of Hypothesis Testing
8.3 Testing a Claim about a Proportion
8.4 Testing a Claim about a Mean

Exam chapter 7& 8

Chapter 9: Inferences from Two Samples

9.2 Two Proportions
9.3 Two Means: Independent Samples

Chapter 10: Correlation and Regression

10.2 Correlation
10.3 Regression

Chapter 9 and 10 on final exam

The above schedule of topics may be changed by the instructor.

FITCHBURG STATE UNIVERSITY UNDERGRADUATE GRADING POLICY

Grading: Your final grade will be determined by:

Exams	25%
Projects	25%
MyStatLab	25%

Final Exam 25%

You must pass the final exam to pass the course.

THERE ARE NO MAKE-UP EXAMS

Extra Help:

We encourage you to set a goal of near perfection for the concepts in each Chapter. **This may require that you spend a significant amount of time on it outside of regular class hours. I am ready to help you succeed in this course.**

4.0	**A**	**95 –100**
3.7	**A-**	**92 – 94**
3.5	**A-/B+.**	**89 - 91**
3.3	**B+**	**86 – 88**
3.0	**B**	**83 – 85**
2.7	**B-**	**80 – 82**
2.5	**B-/C+**	**77 – 79**
2.3	**C+**	**74 – 76**
2.0	**C**	**71 – 73**
1.7	**C-**	**69 – 70**
1.5	**C-/D+**	**67 – 68**
1.3	**D+**	**64 – 66**
1.0	**D**	**60 – 63**
0.0	**F**	**0 – 59**
	IN	**Incomplete**
	IP	**In Progress**
	W	**Withdrawn**

CLASS POLICIES:

- Policy on work handed in late and make up examinations (if applicable).
- Any special rules, regulations or procedures
- Statement indicating each student is responsible for completing all course requirements and for keeping up with all activities of the course.

Academic Dishonesty:

If I suspect that some form of academic dishonesty (i.e. cheating) has taken place, I will follow the FSU policy for academic integrity, which can be found at http://www.fitchburgstate.edu/campus-life/student-services/office-of-student-conduct-mediation-education/academic-integrity/

Learning Disabilities:

If you need accommodations because of a documented disability, or if you have medical information to share with

your instructor, please discuss this with your instructor as soon as possible. Note that you will need to obtain documentation from disability services before accommodations can be made. More information can be found at www.fitchburgstate.edu/disability

POLICY ON DISABILITY

Disability Services is the primary support system for students with disabilities taking classes in the day and evening divisions. The office is located on the third floor of the Hammond Building and can be reached at 978-665-4020 (voice/relay). If you need course adaptations or accommodations because of a disability, if you have emergency medication information, or if you need special arrangements in case the building must be evacuated, please make an appointment at the beginning of the course to talk with me. It is important that the issues relating to disabilities be discussed with me as soon as possible.

GRADE APPEAL

If you disagree with the evaluation of your work or believe an improper grade has been assigned, an appeal may be followed. Please discuss the matter with the instructor and refer to the Fitchburg State University Grade Appeal Policy in the university catalog.

ACADEMIC INTEGRITY POLICY

The faculty in the Education Unit at Fitchburg State University that work submitted in fulfillment of course requirements will be solely that of the individual candidate and all other sources will be cited appropriately. University Academic Integrity Policy, as outlined in the University Catalogue, will be strictly adhered to.

Fitchburg State University encourages all Extended Campus students to take advantage of our online student services. We have created a "virtual student center" just for you. Here you will find access to Counseling Services, Career Services, The Student Activity Center, the university bookstore and many other helpful links. You can access our student center by going to the university homepage at http://www.fitchburgstate.edu and clicking on Offices and Services. Scroll down and click on Extended Campus Center. You will find links to Library Services, our Virtual Student Center and other important information.

FITCHBURG STATE UNIVERSITY
DISTANCE LEARNING & EXTENDED CAMPUS LIBRARY SERVICES

The Gallucci-Cirio Library at Fitchburg State University provides a full range of library services including borrowing privileges; document delivery (books and articles mailed to your home); Interlibrary Loan; reference assistance via: phone, email, IM, Blackboard's Collaboration and Elluminate tools, Skype and in-person; library instruction; research help and more. Any questions relating to library services should be directed to the Linda LeBlanc, Access Services Librarian, at 978-665-3062 or dllibrary@fitchburgstate.edu. There is also a special section for Distance Learning and Extended Campus Services at http://fitchburgstate.libguides.com/dlservices outlining the wide range of services available to you and how to access them.

Students who are currently registered with the university may access any of the library's subscription databases, including an increasing number with full-text, by visiting the Gallucci-Cirio Library's homepage at http://www.fitchburgstate.edu/academics/library and clicking on the Research Databases

button in the center of the page. Select the resource you want to access from the alphabetical or subject listing. Once you click on the database title you will be prompted for your Falcon Key logon information; this is the same logon you will use for your Fitchburg State email account and if you have any online Blackboard courses. If you do not know your Falcon Key username and password or if you have any problems logging in, contact the university's Technology Help Desk at 978-665-4500 or helpdesk@fitchburgstate.edu. The Library can issue you a temporary guest Falcon Key to use while the Technology Department is setting up your account: contact us at 978-665-3062 or dllibrary@fitchburgstate.edu

All registered Fitchburg State University students are eligible for a Fitchburg State University OneCard ID which also serves as his/her library card. If you have not received your OneCard yet, you can still access all of our online services as long as you have activated your library account. Activate your library account online at http://fitchburgstate.libguides.com/dlservices or in person at the Circulation Desk. After activation by the Gallucci-Cirio Library and receipt of your OneCard, students may also use any Massachusetts State College/University Library as well as participating libraries in the Academic and Research Collaborative (ARC) during the current semester. OneCards are available on campus all year round. Students wanting a OneCard must either complete the online Extended Campus OneCard request form http://www.fitchburgstate.edu/offices/technology/onecard/ or present a course registration confirmation at the OneCard Office in the Anthony Building, main campus. Please call 978-665-3039 for available times or if you have any questions about your OneCard.