Syllabus-Spring 2022

Title of Course-Section:	**MATH 1350-503 (Statistics)**
Name of Department:	Mathematic, Engineering, & Computer Science
Instructor:	Andisheh Dadashi, Assistant Prof. of Mathematics
E-Mail:	andisheh@unm.edu
Class Meeting Days/Times:	3:00 pm-4:15 pm
Credit Hours :	3 credit hours
Class Location:	VACTC 101
Office Location:	A 105
Office Hours:	Tuesdays and Thursdays: 12 pm to 14:30 pm or by appointment

Note: The instructor reserves the right to change the syllabus at any point of time during the semester.

Get to know your instructor:

Andisheh Dadashi earned her bachelor's degrees in Mathematics and Statistics from a ranked university in her native Iran. After finishing her undergraduate degrees, she studied abroad in India where she earned her first Master's degree in Statistics. She later moved to the USA to pursue a Ph.D. in Statistics at the University of New Mexico (UNM) and in 2016, she was offered a faculty position as a visiting Lecturer II at UNM-Gallup after receiving her second Master's degree in Statistics.
Andisheh is a strong advocate of higher education and is following her mother's footsteps who was also a University professor in Iran. Because STEM education is becoming increasingly interdisciplinary, Andisheh sought to complement her background in mathematics and statistics with computer science and is eager to integrate data science into her curriculum. Andisheh is currently working on a Ph.D. in computer science and her research includes astrobiology and biomedical informatics while concurrently teaching mathematics, statistics, and computer programming at UNM-Valencia.
To know **Andisheh** watch this video https://youtu.be/t4ryQfdrSEo

** Email **

When emailing me, in subject of your email, please write down your course name, number, and section number. For example, the subject of your email to me should be: **MATH 1350-503**
You must only contact me with your **UNM e-mail**. Check your **UNM email frequently**. You are responsible for missing any announcement I sent via email or UNM Learn. Failure to identify your message with the class number, and not using your UNM email will result in no response at all.

Table of content

What is Introduction to Statistics

This course is an introductory course in statistics intended for students in a wide variety of areas of study. Topics discussed include displaying and describing data, the normal curve, regression, probability, statistical inference, confidence intervals, and hypothesis tests with applications in the real world. Students also have the opportunity to analyze data sets using technology in their weekly laboratory discussions.

Evaluation/Grading Methods

Your final grade in this class is based on the following components:

Online Homework (25%) and online Quizzes (15%)	40 %
Midterms (3)	30 %
Final test	10 %
Attendance, Classwork, Pop Quiz, Project	20%

Overall Grade and Letter Grade

Passing grade is 70% or better.
Overall Grades: pluses and minuses may or may not be added to letter grades at the instructor's discretion. Grades of A+ are not rare and will only be awarded for exceptional work.

Grade	From	To	Grade	From	To	Grade	From	To
A+	98	100	B+	88	89.99	C+	78	79.99
A	93	97.99	B	83	87.99	C	70	77.99
A-	90	92.99	B-	80	82.99	D	60	69.99

Where do you find your grade?
In Achieve: On the left side of the main page you will see an option named "Grade Book". Your Up to dated grade can be find in your grade book

Learning Objectives and Outcomes

Pre-requisites/Co-requisites:
*MATH 1130 is NOT a prerequisite for MATH 1350. Successful completion of MATH 1170 or (MATH 1215X +1215Y) or MATH 1215 or MATH 1220 or MATH 1230 or MATH 1240 or MATH 1250 or MATH 1430 or MATH 1440 or MATH 1512 or MATH 1522 or MATH 2530, or minimum ACCUPLACER score of $\geq$ 262 (QRAS) or $\geq$ 233 (A&F), or ACT score of $\geq$ 20, or SAT score of $\geq$ 520.

Techniques for the visual presentation of numerical data, descriptive statistics, introduction to probability and basic probability models used in statistics, introduction to sampling and statistical inference illustrated by examples from a variety of fields.

Course Description: This course discusses the fundamentals of descriptive and inferential statistics. Students will gain introductions to topics such as descriptive statistics, probability and basic probability models used in statistics, sampling and statistical inference, and techniques for the visual presentation of numerical data. These concepts will be illustrated by examples from a variety of fields.

- Students will explain the general concepts of statistics. (Ch 1)
- Students will present and describe the data. (Ch 1 & Ch 2)
- Students will summarize data using measures of central tendency and variation. (Ch 2)
- Students will present the concepts of probability. (Ch 3)
- Students will calculate probabilities using the standard normal distribution and relate them to areas under the curve. (Ch 3)
- Students will give examples of independent and dependent variables. (Ch 4)
- Students will calculate and interpret the linear correlation coefficient. (Ch 5)
- Students will analyze data using regression and correlation. (Ch 4 & Ch 5)
- Students will distinguish between populations and samples, and parameters and statistics. (Ch 15)
- Students will interpret basic probabilities. (Ch 12)
- Students will analyze the differences between type of variables (Ch 25)
- Students will describe the relationship between the sampling distribution and the population distribution. (Ch 15)
- Students will compute point and interval estimates. (Ch 16)
- Students will perform hypothesis tests. (Ch 17 & Ch 20)

Course Outline - eBook - Package (Achieve) with Inclusive Access (IA)

Book and Package: The Basic Practice of Statistics (ninth edition: ISBN 978-1-319-38395-4 (ePub)), Achieve Package (e-book).
Achieve is the online learning system which accompanies the textbook and includes an e-book. Achieve is required for MATH1350 (Stat145).
Your course comes with Inclusive Access (IA) which means you will have a **discounted price** of the Achieve Package using IA on UNM Learn. On the main page of this course on UNM Learn, you should find a section named Course material. After clicking on it you should see a link named RedShelf. After Clicking on RedShelf you must follow the instruction to access the Achieve package. Also, you should receive an email that contains instructions for inclusive access to the book via the RedShelf on UNM Learn. Please, read the email to gain more information regarding the IA.

Student Instruction :
Follow these steps to get started.
• Go to UNM Learn→MATH1350→Course materials→RedShelf to log in or create an account.
• Under Enroll in a new course, you should see Courses at University of New Mexico, Valencia. Click to expand this list and see courses arranged by subject. Click on 'Introduction to Statistics' to see the terms that courses are available.
• Once the menus are fully expanded, you'll see a link to our specific course:
Stat 1350 -503 (Spring 2022)
• If you prompted to enter the key code when you choose your specific course in Achieve Learning at the time of enrollment

The course id is: **35b8eq**
Key Code:
If required, Key code is your section number: **503**

Where is your e-book?
• To access your e-book, click on the e-book option on the left sidebar of your course site. Create an account or log in with an existing Macmillan Learning eBook account.

Introduction to Assessments for students on Achieve Learning:
Please follow the links bellow in order to know how to use Achieve learning:
Registration information https://macmillan.force.com/macmillanlearning/s/
Achieve FDOC slides for LMS integration (inclusive access): https://docs.google.com/presentation/d/1BgD52StOlr1vYB7AIQQyoec7TvB3q9i$_0$p1u9EvaF7E/editslide = id.g8c314d6353$_{07}$

Achieve Support

• Need Help? The Achieve Learning technical support team can be reached by phone or by webform via the Student Support Community. Here are their hours and contact information:
https://macmillan.force.com/macmillanlearning/s/achieve
Phone: (800) 936-6899

Online Assignments

Warning: Achieve will not work with Ipad, Phone or these sorts of devices. Also on some laptops it may ask for some setting. Also, make sure you are allowing popups. Please, follow the instructions showing in error message or if you cannot figure it out contact tech support Mentioned here **"Achieve Support"**.

Where do you find your online assignment? You can find your online assignments on Achieve. On the main page, you can scroll down to find all the chapters that we are covering in this class. For each chapter, you will find Homework and Quiz which is assigned and has a due date in front of that. For each chapter assignments (Homework and online Quizzes) will be assigned in Achieve and will be graded automatically. Points and the number of assignments will vary.
For homework, you have infinite trials and it is not timed.
For quizzes, you have three trials, for each wrong answer you lose 5% of the question's point, but the quiz is not timed.

Due Dates: For assignments, you will have an initial due date and a final due date. You can find the due dates on Achieve's main page as mentioned **"here"**.
When you exceed the initial due date you will receive a 10% penalty for each day of delay before the final due date. You should be done with your assignments before the final due dates otherwise you will receive a zero.
After the final due dates, no assignment is accepted!
This method keeps us up to date with our assignments and not letting ourselves get behind. Please, don't ask for an extension because it won't be fair to other students who are always on time.

Calculator

A scientific calculator may be used on all homework and exams. A calculator with statistical functions (mean, standard deviation, etc.) is recommended but not required. Use of cell phone calculators or calculators on other WIFI-capable devices is not allowed.

CrunchIt with Achieve!

CrunchIt! is a web-based statistical program that allows users to perform all of the statistical operations and graphing needed for an introductory statistics course.
Warning: CrunchIt will sometimes not work with Internet Explorer. It will ask for Java to be downloaded, or some such message. Unfortunately, downloading Java does not help. However, if you use Mozilla Firefox, CrunchIt works like a charm. And, here is the Crunch It!

Please watch the videos I have made for you and uploaded on YouTube:
https://youtu.be/2i660CafMMI Achieve tour and Crunch It for chapter 01.
https://youtu.be/v82BMiREY2I Crunch It for chapter 02.
https://youtu.be/ut$_ZYrlgVNI$ Crunch It for chapter 03.
https://youtu.be/nc8bhEA6wBI Crunch It for chapter 04 and 05.

Midterm and Final test

You will have three midterm and final exam. Each accounts for 10% of your overall grade.
Midterm 01 will be from chapter 1, and 2.
Midterm 02 will be from chapter 12, 3, and 15.
Midterm 03 will be from chapter 4, 5, 8, and 9.
The Final exam will be from chapters 12, 3, 15, 16, and 17. There will be a maximum of 20 practical questions which you need to solve.
The Midterm and Final exam will appear on Achieve during the due day. Exams will be timed. It will appear at 12:00 am on the exam day and will be due at or before 11:59 pm on the same day. You will have one hour and 45 minutes to finish your exam.
Have a look at the "Course Schedule" for more information regarding the due date.

Support!

If you have a documented disability, the Equal Access Services office will provide me with a letter outlining your accommodations. I will then discuss the accommodations with you to determine the best learning environment. If you feel that you need accommodations, but have not documented your disability, please contact Cheryl Dilger, the coordinator for Equal Access Services at 925-8910 or cdilger@unm.edu.
If you are struggling in this course, do not be afraid to ask for help!
• Office Hours: See my office hours listed at the beginning of this syllabus."Office Hours" Feel free to come by or log in for online office hours, or make an appointment to get help.
• Form study groups: You may work together with other members of our class on UNM Learn discussion board.
• Free Tutoring: The Math Center at Valencia campus has free tutoring and open labs. Call 505-925-8907 for more information. CAPS on main campus also provides tutoring for which I can get documentation."LRC"
• Student Services: There are various services provided in our Student Services Department. Read about "ARC" equal access Services. Also, we have a testing center, advising, and career placement available: Valencia Student Services.

Teaching Materials

Where can you find the materials for this class?
a. You can find my lectures note/ Pdf in the Notes on UNM Learn in a folder named notes.
b. You can find all the lecture videos on UNM Learn in a folder named videos.
c. There are some PowerPoint and image and clicker slides on the home page of Achieve provided by Macmillan Learning you may find useful. You can find them all in the resource section on the homepage
d. UNM Mathematics and Statistics department has provided the past exams. https://math.unm.edu/courses/materials/math-1350-introduction-statistics
e. There are StatTutors/videos provided by MacMillan publisher for each chapter. StatTutors will help you to enhance your learning. StatTutors are accessible on the Achieve homepage under each chapter's resource section.
f. Learning Curves which doesn't count as a part of your overall grade are the best resource to practice the chapter content. It shows you the weakness or strength in a certain section of a chapter. It will give you more questions from the section that you need to work on more. Learning curves are accessible on Achieve's homepage, under each chapter's section.

Lectures videos of the previous semester will be available on this YouTube channel: https://www.youtube.com/channel/UCxEWQetw3yXHsROZylsUuFQ/playlists?view$_as$ = *subscriber*

UNM Learn (Blackboard) Course information including this syllabus, and all the necessary links, etc. will be available via Blackboard.

StudentBehavior & CollegialBehavior

According to the Code of Conduct as stated in the Policies and Regulations for UNM, student activities that interfere with the rights of others to pursue their education or to conduct their University duties and responsibilities will lead to disciplinary action.
This includes any activities that are disruptive to the class and any acts of academic dishonesty. Students are expected to behave in a courteous and respectful manner toward the instructor and their fellow students. Students may be dropped from a class for inappropriate behavior. For more information: https://pathfinder.unm.edu/code-of-conduct.html
Since we assume you are all adults, we will expect from you, respectful adult behavior. Engaging in disruptive or unruly behavior could result in your being asked to leave, at which time you will be counted absent and a referral will be sent to the Associate Dean of Student Services. Continuing to behave in this way could result in your being dropped from the course. Disruptive or unruly behavior includes but is not limited to:
• texting or talking on your cell phone or Laptop at any time during class,
• continually talking with your neighbor when we are not working on a group activity,
• working on homework from another class,
• reading material or watching media on a mobile device not related to this course or at a time that is inappropriate,
• refusing to participate in the class activities.

Academic Dishonesty

Having academic integrity is paramount to your success in any class. Plagiarism or cheating is not tolerated. Any instance of this will result in a grade of zero for that assignment. Here is the link to the UNM Academic Dishonesty Policy: https://policy.unm.edu/regents-policies/section-4/4-8.html.
The policy states: Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or who otherwise fails to meet the expected standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.
Academic Dishonesty is defined as:
"Academic dishonesty" includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.
Cheating students will be prosecuted according to University guidelines. Students should get acquainted with their rights and responsibilities as explained in the Student Code of Conduct http://dos.unm.edu/student-conduct/academic-integrityhonesty.html

UNM Valencia Title IX Representative

Title IX (9) Statement: In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered "responsible employees" by the Department of Education (see pg. 15 - http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf). This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu). For more information on the campus policy regarding sexual misconduct, see: https://policy.unm.edu/university-policies/2000/2740.html

Students Responsibility

EXPECTATIONS: Students are expected to conduct themselves in a polite, courteous, professional and collegial manner. Cell phones must be set on silent and be out of sight during class. No food or drink is allowed in the computer labs.
Time required for This Course: Plan to spend a minimum of 9 to 12 hours per week for this class. There is no guarantee you will pass if you dedicate this amount of time, you still need to learn the material and use your time wisely, but those who pass generally are the ones who spend the time needed to do the work to learn the material.
You are responsible for all material covered in this Syllabus and in class, in assigned readings, and on homework assignments. Not all material on tests will necessarily be covered in class but will be in the assignments. The use of cell phones, headphones, etc. is not permitted in class or exams.

Disabilities Policy: (ARC)

Contact Equal Access Services at 925-8560 to schedule an appointment.https://valencia.unm.edu/students/advisement/equal-access-faqs.html

The Center for Academic Learning

The Learning Center is open Monday – Friday with evening hours Monday – Thursday To schedule an appointment or for additional information call (505)-925-8907 https://valencia.unm.edu/campus-resources/the-learning-center/index.html

UNM Valencia Registrar's Office

Contact Registration Office by calling 925-8580 https://valencia.unm.edu/academics/catalog/2016-2018/admission-registration/index.html

UNM Deadlines & Academic Calendar

UNM Deadlines:http://registrar.unm.edu/semester-deadline-dates/spring-2022.html .....*And*.... **Academic Calendar:**https://hr.unm.edu/calendars

Library

We have a library at UNM-Valencia. You should already know where the library is.

COVID-19 policy at UNM

UNM Administrative Mandate on Required Vaccinations: UNM requires COVID-19 vaccination and a booster for all students, faculty, and staff, or an approved exemption (see: UNM Administrative Mandate on Required Vaccinations). Proof of vaccination and booster, or a medical, religious, or online remote exemption, must be uploaded to the UNM vaccination verification site. Failure to provide this proof may result in a registration hold and/or disenrollment for students and disciplinary action for UNM employees. Booster Requirement: Individuals who received their second dose of a Pfizer or Moderna vaccine on or before June 15, 2021, or their single dose of a Johnson Johnson vaccine on or before October 15, 2021, must provide documentation of receipt of a booster dose no later than January 17, 2022. Individuals who received their second dose of a Pfizer or Moderna vaccine after June 15, 2021 or who received their single dose of Johnson
Johnson after November 15, 2021 must provide documentation of receipt of a booster within four weeks of eligibility, according to the criteria provided by the FDA (6 months after completing an initial two- dose Moderna vaccine, 5 months after completing the Pfizer sequence, and 2 months after receiving a one-dose Johnson and Johnson vaccine). **New UNM COVID-19 requirement in Indoor Spaces:**https://bringbackthepack.unm.edu/vaccine/vaccine-requirement.html The instructor will try to have a few disposable masks available in the classroom on a first-come, first-served basis.

General Education Core Curriculum Essential Skills

In addition to the course learning objectives listed above, because this class meets a UNM General Education Core Curriculum requirement, activities in each unit (i.e.: discussions, assignments, and assessments) are developed so that you can demonstrate development of these essential skills:

Critical Thinking

o Problem Setting: Delineate a problem or question to be considered critically.

o Evidence Acquisition: Identify and gather the information/data necessary to coherently address the problem or question.

o Evidence Evaluation: Evaluate the information given by sources for credibility (e.g. bias, reliability, validity) and probably truth.

o Reasoning/Conclusion: Develop conclusions and outcomes that reflect an informed, well-reasoned argument.

Communication

o Genre and Disciplinary Conventions: Use formal and informal rules/registers appropriate for the particular audience, community, purpose, context, and kind of text and/or media at hand; use them to guide formatting, organization, and stylistic choices are present.

o Strategies for Understanding and Evaluating Messages: Apply strategies such as reading/analyzing for main points or themes; recognizing the variety of rhetorical situations and accompanying strategies that may contextualize messages; locating supportive documentation for arguments to understand and evaluate messages in terms of the rhetorical situation.

o Evaluation and Production of Arguments: Recognize and evaluate the authority of sources in their own arguments and those of others; distinguish among supported claims, unsupported claims, facts, inferences, and opinions.

Quantitative Reasoning

o Communication and/or Representation of Quantitative Information: Express quantitative information symbolically, graphically, and in written or oral language

o Analysis of Quantitative Arguments: Interpret, analyze and critique information or a line of reasoning presented by others

o Application of Quantitative Models: Apply appropriate quantitative models to real-world or other contextual problems

Chapters of Book

Our book has five partitions and there are various numbers of topics (Chapters) in each partition. These are the topics that we are going to learn in this semester.

Part I: Ch. 1 , Ch. 2 , Ch. 3 , Ch. 4 , and Ch. 5

Part II: Ch. 8 and Ch. 9

Part III: Ch. 12, Ch. 15, Ch. 16, and Ch. 17

Part IV: Ch.20

Math 1350 Schedule Spring 2022

Day of	Math 1350 Schedule (subject to change if necessary)
	First day of semester: January 17^{th} & Last day of semester: May 14^{th} Spring Break: March 13^{th} to 20^{th} & Final Exams: May 9^{th} to 14^{th}
Jan 18	Introduction
Jan 20	Ch.1 Data Set, Types of Variables
Jan 25	Ch.1 Picturing Distributions of Variables
Jan 27	Ch.1 Interpreting Graphs
Feb 01	Ch.2 Measures of Center
Feb 03	Ch.2 Measures of Variability
Feb 08	Ch.2 Five number Summary, Detecting Outlier
Feb 10	Review and Practice
	Midterm01: due **Monday, Feb 14** Chapters 1 & 2 assignments due **Monday, Feb 14, 11:55pm**
Feb 15	Ch.12 Introducing Probability
Feb 17	Ch.12 Probability Rules
Feb 22	Ch.3 The Normal (Z) Distributions
Feb 24	Ch.3 Standardized Normal Distribution
Mar 01	Ch.3 Continued
Mar 03	Ch.15 Central Limit Thm & Law of Large numbers
Mar 08	Ch.15 Statistical inference
Mar 10	Ch.15 Sampling Distributions
	Note: March 13^{th} to 20^{th} No Class - Spring break
Mar 22	Review and Practice
	Midterm02: due **Wednesday, March 23** Chapters 12, 3, & 15 assignments due **Wednesday, Mar 23, 11:55pm**
Mar 24	Ch.4 Explanatory & Response Variables
Mar 29	Ch.4 Measure of linear association: Correlation
Mar 31	Ch.5 Regression lines
April 05	Ch.5 Lets Find some relation!
April 07	Ch.8 Population vs. Sample, SRS
April 12	Ch.9 Experimental study
April 14	Review and Practice
	Midterm 03: due **Monday, April 18** Chapters 4, 5, 8, & 9 assignments due **Monday, April 18, 11:55pm**
April 19	Ch.16 Confidence Intervals: The Basics
April 21	Ch.16 Confidence Intervals in Practice!
April 26	Ch.16 Continued
April 28	Ch.17 Hypothesis test
May 03	Ch.17 Tests of Significance: The Basics
May 05	Review and Practice
	Final exam due **Monday, May 09** Chapters 16 & 17 assignments due **Monday, May 09, 11:55pm**