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| **MATH 1312│Section 1 │ Tuesday & Thursday OF** | | | | |
| **Professor:** | **Marvin E. Johnson** | **Phone:** | | **Please Email** |
| **Email:** | [mjohnson@na.edu](mailto:mjohnson@na.edu) | **Office Hours:** | | **By Appointment** |
| *I check emails every day; however, you can expect a response from me within 48 hours. Emails after 5pm Friday will be answered Monday.* | | **Class Location**: **Online Flexible** | | |
| **Semester:** | **Spring 2023** | **Office Location:** | **N/A** | |

# Important Dates:

**Class Start Date Week of January 16th**

**Last Day to Withdraw with “W” March 31st**

**First Exam Date January 31st**

# Course Description

In the **STATISTICS** course, students cover data collection, frequency distributions, levels of measurement, , sampling, descriptive statistics, probability, the normal distribution, confidence intervals, t-tests, correlation, regression and ANOVA. (ACGM)

# Course Materials

* A Laptop or Tablet with a webcam compatible with J1 eLearning and Google Docs or Microsoft word.
* **STATISTICS** Online Text [Introductory Statistics - OpenStax](https://openstax.org/details/books/introductory-statistics)

# Course Components

**Resources:**

The course will follow a Tuesday – Thursday calendar to help students remain on track with course material although it is online flexible. Each week, instructional videos will be posted for students to view to provide additional instruction in addition to homework. Review questions for the test will be posted prior to the scheduled test date. Please stay on schedule to be successful in the course.

**Homework:**

Students are expected to spend approximately six (6) hours a week, on average completing homework assignments to achieve the learning objectives for this 16-week lecture course. This meets the federal government’s expectation of two (2) hours homework for each hour of lecture. Please download the free text book with the link above to find homework problems. All homework will be assigned on a regular basis by the syllabus with DUE DATE, the day of test. Homework problems are assigned to go along with the sections in the book. **Homework will be submitted to the eLearning portal.** **Late homework (after due date) will receive no greater than 50%** Assignments not turned in by the next test, will receive a zero grade after that date.

**Exams:**

There are 5 exams and 1 comprehensive final exam. Exams must be completed within the 24-hour open window on the course calendar. EXAMS THAT HAVE TO BE REOPENED WILL BE ASSESSED A 20% PENALTY.

**Projects (RAD):**

Th course will have two projects assigned for the semester. The first project is posted in J1 eLearning portal. A rubric for both projects is on the next page. The second project is the same as Homework 5.

**Upload the homework for Homework 5 and upload Homework 5 for project 2.**

# Course Grading

**Grading Breakdown**

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| --- | --- | --- | --- |
| **Activity Types** | **No. of Assignments** | **Point Value** | **Total Value** |
| Class Participation\* | 1 | 5% | 5% |
| Homework | 5 | 4% | 20% |
| Projects (RAD) | 2 | 10% | 20% |
| Exams | 5 | 5% | 25% |
| Comprehensive Final | 1 | 30% | 30% |
|  |  |  | **Total: 100 %** |

**\*Class participation requires students to discuss, ask and answer questions.**

**Grading Conversion Table**

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| --- | --- |
| **Point (or Percentage Achieved)** | **Course Grade** |
| 96-100 | A |
| 91-95 | A- |
| 86-90 | B+ |
| 81-85 | B |
| 76-80 | B- |
| 71-75 | C+ |
| 66-70 | C |
| 61-65 | C- |
| 56-60 | D+ |
| 50-55 | D |
| Below 50 | F |

# Need a "C" or better to pass this course.

# Assignment Guidelines

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| **OBJECTIVES** | **Level 5** | **Level 4** | **Level 3** | **Level 2** | **Level 1** |
| **Written Communication** | Expertly conveys the mathematical concept through writing | Competently conveys the mathematical concept through writing | Conveys the mathematical concept through writing | Limited ability to convey the mathematical concept through writing | Inability to convey the mathematical concept through writing |
| **Analysis** | Expertly differentiates among interpretations of quantitative information | Competently differentiates among interpretations of quantitative information | Differentiates among interpretations of quantitative information | Limited ability to differentiate among interpretations of quantitative information | Inability to differentiate among interpretations of quantitative information |
| **Interpretation** | Expertly interprets quantitative measures, including mathematical concept of project problem | Competently interprets quantitative measures, including mathematical concept of project problem | Interprets quantitative measures, including mathematical concept of project problem | Limited ability to interpret quantitative measures, including mathematical concept of project problem | Inability to interpret quantitative measures, including mathematical concept of project problem |
| **Application** | Expertly utilizes quantitative measures including mathematical concept of project problem | Competently utilizes quantitative measures including mathematical concept of project problem | Utilizes quantitative measures including mathematical concept of project problem | Difficulty utilizing quantitative measures, including mathematical concept of project problem | Inability to utilize quantitative measures, including mathematical concept of project problem |

# Students Rights and Responsibilities

**Students are responsible for:**

* reading any assigned reading as stated in the weekly blocks of the course page
* reviewing the web-page resources posted in the course page for each week
* reading all discussion postings in the weekly blocks as assigned
* posting weekly discussion postings as assigned
* assuring that their computer/device is compatible and working to engage effectively in this online course
* uploading assignments before or on the assigned due date/time

**Students can expect:**

* the instructor will return email and phone communications within 48 hours unless otherwise announced in the course page.

# Student Help

**Student Success and Career**

The North American University Student Success Center is located on the 8th floor of the Main Building. The Success Center provides an open space that meets the academic needs of students to create a more conducive learning environment. The Student Success and Career Office offers the following educational enhancement initiatives:

**•** Freshman Peer Mentor Program

• Content Based Tutoring

• Academic Coaching

• Career Advising

• Academic Workshops

• Career counseling

• Career and Internship Fairs

• Interview Preparation Meeting (Mock Interviews)

• Resume / Cover letter development seminars

Learn more by visiting The Student Success Center online: [**https://www.na.edu/student-success/**](https://www.na.edu/student-success/)

**Library Resources**

Students are expected to do research using databases, periodicals, and journals. Please visit the library's website for more detailed information: <http://www.na.edu/library/>

# Communication Expectations

Now that you are scholars who make learning your full-time occupation, you may find a situation in which you need to contact me at any given time of day. I encourage you to email me at **mjohnson@na.edu**, visit me during my posted office hours, or propose an appointment time should you need to meet at a different time. REMINDER: If you find yourself unable to attend a scheduled exam due to a pressing matter, you must contact me at least 24 hours in advance to discover whether we can reschedule the date. Unless you are physically ill, I can imagine no other valid excuse for missing an exam.

# General Course Requirements & Professor Expectations

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| 1. **Be punctual.** The professor must provide a learning environment conducive to learning for all students. Tardiness is distracting and disruptive to fellow students and the professor. **Students who miss tests, will have two class periods to make the test up. Test will be decreased by 5% for each day the test is not taken.** The student may visit with fellow classmates to acquire notes of information missed or may make an appointment with the professor for further direction. 2. **Avoid absences.** Your best chance to do well in this class is to attend every class meeting. Students are expected to be diligent. It is expected that students will access Jenzabar eLearning every day and will complete the weekly assignments by the due date. Students are also expected to actively participate with the learning content using the Jenzabar eLearning platform. Therefore, it is vital that students complete the assigned readings and assignments on schedule so that they are prepared. The University’s attendance policy states that regular and punctual class attendance is essential and that no assigned work is excused because of absence, no matter what the cause. Records of class attendance are kept by faculty. **When an accumulation of absences reaches the point of endangering a student’s academic status or exceeds 6 class hours, the faculty member can report the situation to the Registrar’s Office to begin proceedings to drop the student.** A professor should not assume that continued absence from class indicates an official withdrawal until notified by the Registrar (NAU Student Handbook). 3. **Plan for exams.** If a student cannot make it to class for a scheduled exam because of a pressing matter, it is the student’s responsibility to make arrangements with the professor and schedule a different date for the exam. It is up to the instructor whether the excuse for missing a test date valid. 4. **Submit assignments on-time.** Late work will not be accepted; however, extensions may be granted under certain circumstances at my discretion. **Upload homework assignment to portal on test date.** Late assignments will start at 50% and decrease by 5% each day until a zero grade. 5. **Note that Exam scores are final.** Once a quiz or exam has been graded, the grade will remain as is, unless there are mistakes made in grading on the exam. 6. **Final Exam:** You must pass the final exam with a C or higher in order to pass the course. If you do not pass the final exam with a C or higher, you will receive a D for the semester grade, and you will have to repeat this course, regardless of the grade reflected in the Jenzabar eLearning Gradebook. 7. **Gradebook Policy.** The Gradebook in Jenzabar eLearning will be used to track your graded assignments; **however, it is only a tool to track grades earned on assignments and to give you an approximate idea of the grade you may receive in this course**. **The grade reflected in the Gradebook, may not be the grade earned at the end of the semester.** You must meet all requirements such as passing your final with a C or above, and you must follow all policies established for this course such as the attendance policy in order to receive the grade reflected in the Gradebook. **I reserve the right to change the Gradebook grade.** 8. **Adhere to copyright regulations.** “Unauthorized photocopying of copyrighted works, including musical works, may be unlawful and may infringe the copyright of the copyright owner. Students in possession of unauthorized duplications of copyrighted material are subject to appropriate disciplinary action as well as those civil remedies and criminal penalties provided by federal law.” 9. **Silence your mobile devices.** Cell phones are required to be “turned off” or set on a silent/vibrate mode. Under no circumstances will any student be allowed to carry on a telephone conversation or text during the class session. In case of emergencies, please leave the room as quietly and courteously as possible. 10. **Maintain a clean learning environment.** Students may keep food and drinks at their desks but must ensure the area is clean before leaving for the day. In lab environments, food and drinks are not permitted around lab equipment. 11. **Demonstrate respect in the classroom.** Each student is expected to demonstrate respect to the professor, fellow classmates, and practicum personnel (if applicable). 12. **Demonstrate professionalism.** Each student is expected to act professionally, both in and out of the classroom. Any inappropriate verbal disgracing regarding this program will result in probation, suspension, and/or dismissal of the program. NAU reserves the right to exclude at any time persons whose conduct is undesirable. 13. **Technology Requirements:** <https://www.na.edu/nau-distance-education/> |

# University Policies

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| **Americans with Disabilities Act (ADA)**  North American University complies with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, pertaining to the provision of reasonable academic adjustments/auxiliary aids for students with a disability. In accordance with Section 504 and ADA guidelines, NAU provides reasonable and appropriate accommodations to eligible students upon their request. Persons with disabilities who desire accommodations are encouraged to contact the Student Services Office. This process begins with the student completing and submitting the Learning Disability Accommodation Request form, which can be found on the University website at:  <http://www.na.edu/documents/campus_life/Learning_Disability_Accommodation_Request_Form.pdf>.    Then the student/parents provide official supporting documentation from a physician. Once these items are submitted, the Student Services Office follows up with the student’s instructors to update them about the student’s pending accommodations. All information pertaining to the student is maintained with the Student Services Office.  Accommodations may include but are not limited to:  • Extended time for tests  • Separate/quiet testing environment  • Note taking assistance  • Enlarged written materials  • Books on Tape  • Preferential seating  **Sexual Harassment**  Policy Sexual Harassment is defined unwelcome, sexual and/or gender-based verbal, written, online and/or physical conduct. Any form of conduct that has the purpose or effect of interfering with a student’s performance or access to University programs or which creates an intimidating or hostile learning or living environment is also sexual harassment. Sexual harassment will not be tolerated at the University. If you believe that you have experienced an incident of sexual harassment, contact Human Resources immediately so that a proper investigation can be conducted.    **Student Complaint Policy and Procedure**  North American University is committed to treating all students fairly and respectfully. One of the methods NAU employs to achieve this outcome is the use of a student complaint system. A formal complaint is a request for the resolution of a problem, conflict, concern, or issue that negatively impacts a student(s). Student formal complaints may include (but are not limited to) issues regarding classroom instruction, policies, procedures, services, and offices. Formal complaints must be filed using NAU’s formal complaint form. A variety of channels exist at North American University to resolve problems that a student may encounter. Formal complaints that involve discrimination and sexual/sexual harassment are addressed under Title IX and are handled separately from the processes described below. Formal complaints involving grades where the final course grade is disputed and/or the student believes that the final grade is not indicative of his/her academic performance are addressed by the grade appeal process. In an instance of perceived violation of a policy, a student may file a complaint. This policy provides two avenues for pursuing a complaint: 1. An Informal Resolution Procedure and 2. A Formal Resolution Procedure.  For complete complaint policy and procedure please visit the Student Handbook online at:  <https://www.na.edu/wp-content/uploads/2019/05/student-handbook.pdf>  **Student Rights and Responsibilities**: <http://www.na.edu/academics/academic-catalog/>    NAU monitors academic progress every fall and spring semester to identify those students who are experiencing difficulty with their courses.  Satisfactory Academic Progress (SAP) is based upon two components**:** GPA of 2.0 or higher and successful course completion of at least 67% of course work attempted.  Students remain in good standing with the University’s and Financial Aid when both criteria are met.  Students who do not maintain these required minimum standards will be placed on probation or suspension as appropriate.  The complete Satisfactory Academic Progress policy and the Undergraduate Satisfactory Academic Progress for Financial Aid policy can be found in the current Undergraduate Catalog.  **“Incomplete” Grades**  “Incomplete” grades are given only at the professor’s discretion and *must be requested by the student*. If the professor grants the “Incomplete,” the student has until ninety (90) days after the beginning of the next regular semester to complete the course requirements. If the student does not complete the course requirements within the deadline, the grade of “Incomplete” will automatically convert into a grade of “F.” Please note that “Incompletes” are given only in an emergency or when there are extenuating circumstances. Refer to the catalog for additional details about receiving a grade of “Incomplete” in a course.  **Academic Integrity**  Students are expected to be above reproach in all scholastic activities. Students who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and expulsion from the University. Plagiarism will not be tolerated**.** You must use proper MLA documentation indicating borrowed work by using quotation marks to capture someone else’s words verbatim, as well as a parenthetical citation containing the author’s name. **I will use my own discretion, but plagiarism will likely result in either a zero for the assignment or the student being dropped from the course.**  **Note that the institution has a firm policy against scholastic dishonesty, which “includes but is not limited to:**  **Plagiarism.**  **• Submitting homework, or paper that is partially or entirely the work of someone else.**  **• Violations of Copyrights.**  **• Dishonesty in ANY coursework.**  **• Submitting, as original work, a term paper which has already been submitted in another course.**  **• Copying from any other student's paper or allowing a student to copy from your paper.**  **• Cheating.**  **(NAU Student Handbook, Page 29). This policy will be strictly enforced.**    Since scholastic dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced.  All scholastic dishonesty incidents will be reported to the Coordinator of General Education. Do not allow your peers to pressure you to cheat. Your grade, academic standing, and personal reputation are at stake.  Some components of this course are designed to be highly interactive with students helping each other learn; however, all written assignments are designed to represent the efforts of each student individually and not to be shared. When students submit their efforts for grading, they are attesting that they have abided by this rule.  Plagiarism includes, but is not limited to, the use of, by paraphrase or direct quotation without correct citation in the text and on the reference list, the published or unpublished works of another person. **Students may NOT submit papers and assignments that they have previously submitted for this or other courses**. The use of materials generated by agencies engaged in "selling" term papers is also plagiarism. Students are encouraged to review the tutorials and suggested websites for more information about plagiarism. Papers and other assignments may be submitted to an external agency for verification of originality and authenticity.  By enrolling in this course, the student expressly grants NAU a "limited right" in all intellectual property created by the student for the purpose of this course. The "limited right" shall include but shall not be limited to the right to reproduce the student's work product to verify originality and authenticity, and for educational purposes.  **Academic Responsibilities**  Students are expected to be diligent in their studies and complete class requirements. Students are responsible for all class work and assignments. On recommendation of the professor and with the approval of NAU administration, students may, at any time, be dropped from courses. This may result in a “W” or “F” on the student’s permanent record.  **Senate Bill 11 (SB11)**  The Open Carry Law allows license holders to carry their handguns in an open manner throughout the state of Texas as long as the handgun is secured in a shoulder or belt holster. They MAY NOT OPENLY CARRY on the premises of a university or on a public or private driveway, street, sidewalk or walkway, or parking area of a university.  The Campus Carry Law concerns the carrying of concealed handguns on campus and went into effect for four-year universities in August 2016. The Campus Carry Law permits CONCEALED handguns to be carried by valid Concealed Handgun License (CHL) holders on a university campus, in portions of the campus approved for carry. Link to bill: <https://www.legis.state.tx.us/tlodocs/84R/billtext/pdf/SB00011F.pdf> |

# Course Calendar (STATISTICS OPEN Flexible)

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Wk.** | **Day** | **Date** | **Ch.**  (sec.) | **Class Details** | **Homework**  (Homework Sec.) | **Page**  **Num.** | **Due** |
| 1 | T | 1/17 |  |  |  |  |  |
| TH | 1/19 | 1.1  1.2 | Introduction, CDA, Syllabus, Text  Definitions of Statistics  Data, Sampling, Variation | 43, 51, 57, 63 | 52 – 54 |  |
| 2 | T | 1/24 | 1.3  1.4  1.5  1.6 | Frequency, Levels of Measurement Experimental Designs, Ethics  Data Collection Experiment  Sampling Experiment | 81, 87 | 56, 59 |  |
| TH | 1/26 | Review | Review Questions Posted |  |  |  |
| 3 | T | 1/31 | Test 1 | **Test 1 – (Ch. 1)** |  |  | **Homework 1** |
| TH | 2/2 | 2.1  2.2  2.4 | Line Graphs, Bar Graphs  Histograms  Box Plots | 75, 79, 85 | 140, 145, 148 |  |
| 4 | T | 2/7 | 2.5  2.6 | Measures of the Center of Data  Skewness & Mean, Median, Mode | 91, 93 | 151 |  |
| TH | 2/9 | 2.7  2.8 | Measures of the Spread of Data  Descriptive Statistics | 95, 96, 98 | 152 | **Census Date ( )** |
| 5 | T | 2/14 | 3.1  3.2 | Terminology of Probability  Indep. & Mutually Excl. Events | 66, 69, 71 | 220 – 221 |  |
| TH | 2/16 | 6.1  6.2 | The Standard Normal Distribution Using the Normal Distribution | 61, 63, 68, 69 | 389 – 390 |  |
| 6 | T | 2/21 | Review | Review Questions Posted |  |  |  |
| TH | 2/23 | Test 2 | **Test 2 – (Ch. 2, 3, 6)** |  |  | **Homework 2** |
| 7 | T | 2/28 | 8.1  8.2 | Single Population Mean-Normal  Single Population Mean-Stud. t | 95, 105 | 498, 500 |  |
| TH | 3/2 | 9.1  9.2 | Null and Alternative Hypothesis  Outcomes – Type I & II Error | 63, 66 | 540 – 541 |  |
| 8 | T | 3/7 | 10.1 | Independent t-test | 79 | 601 |  |
| TH | 3/9 | Review | Review Questions Posted |  |  |  |
| 9 | T | 3/14 | Holiday | Spring Break |  |  |  |
| TH | 3/16 | Holiday | Spring Break |  |  |  |
| 10 | T | 3/21 | Test 3 | **Test 3 – (Ch. 8, 9, 10)** |  |  | **Homework 3** |
| TH | 3/23 | 12.1  12. 2 | Linear Equations  Scatter Plots | 57, 59 | 719 – 720 |  |
| 11 | T | 3/28 | 12.3  12.5 - 6 | The Regression Equation  Prediction, Outliers | 65  67, 72 | 721  721, 726 | **Assign Project 1**  Correl. Lin. Regress. |
| TH | 3/30 | 11.1  11.2 | Facts about the Chi Square Dist.  Chi-Square Goodness of Fit | 69 | 658 |  |
| 12 | T | 4/4 | 11.3 | Test of Independence | 86 | 663 |  |
| TH | 4/6 | Review | Review Questions Posted |  |  |  |

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| 13 | T | 4/11 | Test 4 | **Test 4– (11, 12)** |  |  | **Homework 4** |
| TH | 4/13 | 13.1 | Basics of ANOVA | 59 | 767 |  |
| 14 | T | 4/18 | 13.2 | One Way ANOVA | 61, 65 | 768 – 769 | **Project 1 Due** |
| TH | 4/20 | Review | Review Questions Posted |  |  |  |
| 15 | T | 4/25 | Test 5 | **Test 5– (13)** |  |  | **Homework 5**  (Project 2 Due) |
| TH | 4/27 |  |  |  |  |  |
| 16 | T | 5/2 | Review | Review Questions Posted |  |  | **Last Day** |
| Final | TH | 5/9 | Final | Final Exam |  | 11:55 PM | Online |
| F | 5/12 | Grades | Submit Final Grades |  |  |  |

**Syllabus Subject to Change:**

This syllabus *may change* as needed to support the student learning outcomes for this course. This syllabus was last reviewed on 1/14/23.