

**ERMA 2400**

**APPLIED QUANTITATIVE DATA ANALYSIS IN EDUCATION**

**AND HEALTH PROFESSIONS**

**Fall 2025**

**INSTRUCTOR:** Kailea Q. Manning

**OFFICE:** College of Education – Room #3323

**OFFICE HOURS:** Wednesdays 10:30am-12:30pm,

Zoom meetings available by appointment

**EMAIL:** [kem0147@auburn.edu](mailto:kem0147@auburn.edu)

**MEETING TIMES:** Tuesday/Thursday 11:00am-12:15pm @ COE #2203

**Course Description:**

This course is designed to provide undergraduate students who are interested in education, counseling, school psychology, or health professions with data management, data analysis reasoning, and data-based decision-making skills.

**Course Objectives:** Upon completion of this course, the student will be able to:

* ***Objective 1:*** Identify and apply appropriate measures of reliability and validity.
* ***Objective 2:*** Organize, summarize, and present the characteristics of the data.
* ***Objective 3:*** Identify and apply appropriate data analysis methods.
* ***Objective 4:*** Answer research problems using statistical tests of significance.
* ***Objective 5:*** Make accurate interpretations of statistical findings.
* ***Objective 6:*** Use data analysis software to answer questions and solve real-life problems.

**Course Texts (Not Required)**

1. Gravetter, F. J. & Wallnau, L. B. (2016). Statistics for the Behavioral Sciences (10th ed.). Cengage Learning. (ISBN: 9781305504912)
2. Salkind, N. J. (2015). Excel Statistics: A Quick Guide (3rd ed.). Sage Publications, Inc. (ISBN: 978-1483374048)

**Required Technology**

***Software & Access***

* Reliable high-speed internet (computer or mobile device).
* PDF creator (e.g., Adobe Acrobat).
* Canvas (Auburn’s online learning platform).
* Zoom (for virtual office hours, as needed).
* Microsoft Office (Word & Excel).

**The desktop version of Microsoft Excel is required for this class.** The online version of Excel lacks many of the advanced features needed for in-depth data analysis and is not sufficient for course materials. If you need to download Excel, please follow these instructions: [aub.ie/officekb](https://auburn.service-now.com/it/en/an-overview-of-and-installing-microsoft-365?id=kb_article_view&sysparm_article=KB0011730)

If you need any assistance downloading the Microsoft 365 apps please contact the IT Service Desk at (334) 844-4944 or [itservicedesk@auburn.edu](mailto:itservicedesk@auburn.edu)

***Technology Skills***  
Students are expected to know how to:

* Perform basic computer tasks (create folders, save files, copy/paste, use track changes, create tables).
* Create and edit Word, Excel, and PDF documents.
* Use Canvas: upload/download files, view videos, and access instructor feedback.
  + [Canvas Student Resources](https://community.canvaslms.com/t5/Student-Guide/tkb-p/student)

**Grading and Evaluation Procedures:**

Assignments (40 pts X 5) 200 pts

Exams (100 pts X 3) 300 pts

Total Possible Points 500 pts

**Bonus Points Practices:** Periodic in-class practice activities will be offered for 2 bonus points each. You must be present and complete the activity in class to earn credit. No late or make-up submissions are allowed.

**Late Work Policy:** Assignments submitted late without an approved reason will incur a 5-point deduction per day. Work more than two weeks past the deadline will not be accepted.

**Grades:** You can view scores for individual assignments in Canvas. However, the official record of grades is maintained by the instructor in Excel and will be used to calculate your final course grade.

**Grading Scale:**

|  |  |
| --- | --- |
| **Grade** | **Points** |
| A | 450+ points **and** excellent attendance and participation |
| B | 400 ~ 449 points **and** at least good attendance and participation |
| C | 350 ~ 399 points |
| D | 300 ~ 349 points |
| F | < 300 points |

**Course Assignments:**

**Examinations (100 pts X 3):** There will be three examinations. These exams will be in class. You can use all resources you can find to complete the exams. However, the work needs to be your own work. **The final exam is optional if you already have an A (at least 360+ points) before the final, you can decide if you want to complete the final exam or not. If you decide NOT to take the final exam, your final exam grade will be assigned as 100.**

**Assignments (40 pts X 5):** Assignment can be completed individually or in groups. However, each student must submit their own write-up. Identical submission is not accepted. Assignments are designed to introduce you to the use of data analysis software to complete analyses taught in classes. Due to time restraints, it is NOT intended to provide you with enough practice to memorize procedures. You should have reference books to help you complete assignments.

**Course Policies:**

***Attendance and Participation.***

Attendance and active participation are essential for exploring topics effectively and are therefore required. Consistent class attendance is necessary to earn an “A” in this course, as well as to qualify for class practice bonus points. Each student is allowed one unexcused absence or two excused absences without penalty during the semester. Students who miss more than one-third of the class sessions will not be allowed to attend the exam. If you need to be absent due to school or work-related requirements, illness, or an emergency, you must email the instructor(s) in advance. Students are responsible for initiating arrangements for missed work.

***Excused Absences.***

Students are granted excused absences from class for the following reasons: illness of the student or serious illness of a member of the student’s immediate family, death of a member of the student’s immediate family, trips for student organizations sponsored by an academic unit, trips for University classes, trips for participation in intercollegiate athletic events, subpoena for a court appearance, and religious holidays. Students who wish to have an excused absence from this class for any other reason must contact the instructor in advance of the absence to request permission. The instructor will weigh the merits of the request and render a decision. When feasible, the student must notify the instructor prior to the occurrence of any excused absences, but in no case shall such notification occur more than one week after the absence. Appropriate documentation for all excused absences is required.

***Accommodations.***

Students who need accommodations are asked to electronically submit their approved accommodations through AU Access and to make an individual appointment with the instructor during the first week of classes – or as soon as possible if accommodations are needed immediately. If you have not established accommodations through the Office of Accessibility, but need accommodations, make an appointment with the Office of Accessibility, 1228 Haley Center, 844-2096 (V/TT). If you do not have an established accommodation but would like to discuss possible accommodations while seeking or in lieu of an established accommodation, please the instructor directly.

***Email and Communication.***

* **Student Responsibility:** Students are expected to check their Auburn email and Canvas regularly for important course information.
* **University Email:** All course-related communication must be through your Auburn University email account. I will also use your Auburn email address for all correspondence.
* **Response Time:** Emails will be answered within 48 hours, not including weekends or holidays.
* **Canvas:** All announcements, PowerPoints, and assignments will be posted on Canvas. You are responsible for checking Canvas weekly.
* **Assignment Submission:** All assignments must be submitted through Canvas. Grades and feedback will also be posted there.
* **Instructor Support:** If you need individual assistance, you may reach out during office hours, by email, or request a Zoom meeting.

***Assignment Policy.***

* **Submission Method:** All graded work must be submitted through Canvas. Work will not be accepted by email, as attachments, or on external media (e.g., drives).
* **Formatting Requirements:** All assignments and exams must be typed and submitted in Microsoft Word or PDF format. Handwritten or electronically penned submissions will not be accepted.
* **Grading & Feedback:** All assignments, class practices, and exams will be graded with feedback provided. No partial credit will be awarded for individual questions. Grades and feedback can be reviewed in Canvas. If you have questions, please bring them to office hours.

***Technology in the Classroom.***

To ensure an optimal learning environment, please turn off or switch your electronic devices to either "airplane" or "do not disturb" mode during class sessions. This will help to minimize disruptions and create a focused atmosphere conducive to effective learning and engagement. Distractions, resulting from the use of electronic devices will result in a grade penalty (participation points). The instructor will communicate with students individually and/or as a group via email.

***Use of Artificial Intelligence Policy.***

In this course, students are permitted to use Generative AI Tools such as ChatGPT or Copilot for specific assignments, as designated by the instructor. To maintain academic integrity, students must disclose any use of AI-generated material. As always, students must properly use attributions, including in-text citations, quotations, and references. Students should exercise caution and avoid sharing any sensitive or private information when using these tools. Examples of such information include personally identifiable information (PII), protected health information (PHI), financial data, intellectual property (IP), and any other data that might be legally protected.

A student should include the following statement in assignments to indicate use of a Generative AI Tool: “I would like to acknowledge the use of [Generative AI Tool Name], a language model developed by [Generative AI Tool Provider], in the preparation of this assignment. The [Generative AI Tool Name] was used in the following way(s) in this assignment [e.g., brainstorming, grammatical correction, citation, which portion of the assignment].”

***Incompletes and Withdrawals.***

* **Withdrawals:** Auburn University’s withdrawal policies and deadlines areoutlined inthe Academic Calendar. For Fall 2025, the key dates are:
  + **Sep 8 (15th Class Day):** Last day to drop a course with no grade assignment.
    - Reminder: Students who withdraw between the 6th and 15th class day will be charged a $100 course drop fee.
* **Sep 9 – Oct 7 (16th–36th Class Day / Mid-Semester):** Students may withdraw; a grade of W will appear on the transcript (not counted in GPA).
* **Nov 21:** Last day to withdraw with a grade of W (not counted in GPA).
* **After Nov 21:** Withdrawals are permitted only for documented circumstances (medical, family, personal, or military) through the appropriate University approval process. Depending on your course standing, grades of W (withdrawn passing) or WF (withdrawn failing) may be assigned.
* For more information, see the [Auburn Bulletin Withdrawal Policy](https://bulletin.auburn.edu/Policies/Academic/withdrawalsresignation/).
* **Incompletes: A grade of IN (Incomplete) may be requested only if:**
  + At least 60% of coursework has been completed, and
  + The student is passing at the time of the request.
* An Incomplete Grade Form must be completed with the instructor.
* If the required work is not finished by the agreed deadline, the grade will automatically convert to an F.

***Academic Honesty.***All portions of the Auburn University Student Academic Honesty Code (Title XII), found in the Student Policy eHandbook, apply to this course. Violations will be reported to the Office of the Provost, which refers cases to the Academic Honesty Committee. Sanctions may be applied as outlined in University policy.

**Violations include, but are not limited to:**

* Plagiarism (using another’s words or ideas without proper citation).
* Unauthorized assistance during examinations.
* Submitting another’s work as your own.
* Sharing unauthorized exam materials.
* Altering or attempting to alter assigned grades.

**Plagiarism Resources: For more information about avoiding plagiarism, see:**

* [Auburn Plagiarism Resource Guide](https://auburn.app.box.com/s/6joocey6sylos3y9g1eosvqf77a1qgya)
* [Purdue OWL: Avoiding Plagiarism](https://owl.purdue.edu/owl/avoiding_plagiarism/index.html)

***Classroom Behavior.***

*The Auburn University Classroom Behavior Policy will be strictly followed in this course. Please review the Student Policy eHandbook for details. Respectful conduct and active engagement are expected at all times to ensure a productive learning environment.*

***Emergency Contingency.***

If normal class activities are disrupted due to illness, emergency, or crisis situations, the syllabus and other course plans and assignments may be modified to allow completion of the course. If this occurs, an addendum to your syllabus and/or course assignments will replace the original materials.

***Mental Health.***

If you or someone you know needs support, you are encouraged to contact Auburn Cares at 334-844-1305 or auburn.edu/auburncares. Auburn Cares will help you navigate any difficult circumstances you may be facing by connecting you with the appropriate resources or services.

Student Counseling & Psychological Services provides confidential, no-cost mental health counseling and psychiatric services to Auburn Students. You can speak with a counselor 24/7/365 by calling 334-844-5123.  Learn more about mental health information on campus at auburn.edu/scps.

***Basic Needs.***

Any student experiencing food insecurity or an unexpected financial crisis is encouraged to contact Auburn Cares at 334-844-1305 or [auburn.edu/auburncaresLinks to an external site.](https://auburn.edu/auburncares) for resources and support.

Sexual Misconduct Resources Statement

Auburn University faculty are committed to supporting our students and upholding gender equity laws as outlined by Title IX. Please be aware that if you choose to confide in a faculty member regarding an issue of sexual misconduct, dating violence, or stalking, we are obligated to inform the Title IX Office, who can assist you with filing a formal complaint, No-Contact Directives, and obtaining supportive measures. Find more information at auburn.edu/titleix.

If you would like to speak with someone confidentially, Safe Harbor (334-844-7233) and Student Counseling & Psychological Services (334-844-5123) are both confidential resources. Safe Harbor provides support to students who have experienced sexual or relationship violence by connecting them with academic, medical, mental health, and safety resources. For additional information, visit auburn.edu/safeharbor.

**Tentative Weekly Course Schedule**

| **Week** | **Date** | **Tuesday** | **Thursday** |
| --- | --- | --- | --- |
| 1 | 8/19, 8/21 | Syllabus and Class Policy | Introduction |
| 2 | 8/26, 8/28 | Measurement, Reliability, & Validity | Measurement, Reliability, & Validity |
| 3 | 9/2, 9/4 | Review & Data Management | **\*Assignment #1 Due at 11:00am\***  Data Visualization |
| 4 | 9/9, 9/11 | Data Visualization | Descriptive Data Analysis |
| 5 | 9/16, 9/18 | Descriptive Data Analysis & Review | **\* Assignment #2 Due at 11:00am\***  Probability & Distribution |
| 6 | 9/23, 9/25 | Probability & Distribution & Review | Exam I **(No Class)** |
| 7 | 9/30, 10/2 | Review of Exam I Multiple Choice | **\*Exam I Lab Due at 11:00am\***  Hypothesis Testing; One-Sample z-Test |
| 8 | 10/7, 10/9 | One-Sample t-Test | **Fall Break (No Class)** |
| 9 | 10/14, 10/16 | Independent Samples t-Test | Paired Samples t-Test & Review |
| 10 | 10/21, 10/23 | Non-parametric Tests | **\*Assignment #3 Due at 11:00am\***  Non-parametric Tests |
| 11 | 10/28, 10/30 | One-way ANOVA | **\*Assignment #4 Due at 9:30am\***  Review |
| 12 | 11/4, 11/6 | Exam II **(Take Home,** **No Class)** | Correlation (TBA) |
| 13 | 11/11, 11/13 | Simple Regression | Review |
| 14 | 11/18, 11/20 | **\*Assignment #5 Due at 9:30am\***  Chi-Square Test | Questions and Review |
| 15 | 11/25, 11/27 | **No Class – Thanksgiving Break** | |
| 16 | 12/02, 12/03 | Final Review | **Final Exam** (Optional, Online) |
| **NOTE: The instructor reserves the right to modify the schedule at any time during the course of the semester. If a change is made, appropriate notice will be given.**  **Updated 8/17/2025** | | | |