

SYLLABUS

MATH 3220 – Applied Statistics

INSTRUCTOR: Dr. Keith Driscoll

OFFICE HOURS: MW 10:00 – 10:50, 12:00-12:35, F 12:00 -2:00

OFFICE: UC-406

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PREREQUISITE: Minimum grade of C in Math 1231 and Math 1241 or Math 1501.

COURSE DESCRIPTION: The purpose of this course is to help students develop statistical reasoning skills through investigating and understanding advanced statistical analysis methods beyond that of the introductory course. This course is an introduction to multiple regression, analysis of variance, and other selected inference methods. Topics will be selected from Chi-squared tests, non-parametric statistical methods, analysis of variance using simple experimental designs, and multiple regression methods, including model checking, variable screening, analysis of residuals, and model building. Time permitting, we will look at logistic regression, piecewise regression, inverse prediction, and other selected regression topics. 3 credit hours

REQUIRED MATERIALS:

TEXTBOOK: Title: A Second Course in Statistics: Regression Analysis, 7th Edition, Mendenhall & Sincich, (ISBN-10: 0132069512)

- **SOFTWARE:**

- **Minitab:** Minitab is a statistical software program. We will rarely compute statistics without the assistance of this software package. Minitab **FOR PCs** is available for through USG Software Resource & Services. Log into the Swan and click on the link for Software (on the right near the top. Or just click [here](#)). You will need to create an account on the SRS personal store before you can purchase Minitab. For Macintosh computers, you will need Minitab Express. This can be purchased directly from Minitab (www.minitab.com) at a comparable price. **You are required to use Minitab, and not use Excel! Assignments submitted using Excel will be returned as unacceptable (and if they are not re-submitted by the deadline, they will be considered late, and not graded).**

- **CALCULATOR:** We will use the computer extensively, but a scientific calculator is occasionally helpful. You may NOT share calculators on tests.

YOU SHOULD BRING YOUR COMPUTER AND TEXTBOOK TO EACH CLASS MEETING.

COMMON LEARNING OUTCOMES: After successful completion of the course the student will be able to:

1. Read, understand, and critique statistical work published by others (newspapers, periodicals, and professional journals).
2. Demonstrate an understanding of how statistics is used in the process of asking research questions, gathering data to address these questions, analyzing the data, and making decisions based upon that analysis.
3. Communicate their knowledge about advanced statistics concepts using multiple media (verbal, numerical, graphical, analytical)
4. Pose mathematical questions, provide mathematical arguments and determine the appropriate applied statistics concepts needed to analyze and solve problems, draw conclusions or formulate conjectures.
5. Use appropriate technology to conduct the analysis, evaluation and synthesis of information in applied statistical analysis.

EVALUATION: Your grade in this course will be determined by the points that you earn on the homework, tests and the final exam.

- **Homework:** Homework assignment will be made from the text exercises and other supplemental material supplied by the instructor. Homework is always due in one week from the date it is assigned, and will be collected at the beginning of the class period.
- **Tests:** There will be two exams given worth 100 points each. If you miss the test, arrangements MAY be made to take it. Email me immediately, before missing the test if possible. You must have evidence of an excused absence. Appropriate documentation will be required (doctor's note, etc).
- **Final Exam:** The final exam is cumulative from the beginning of the semester. No student will be excused from taking the final examination; only under extenuating circumstances will a student be allowed to take the final examination at any time other than the regularly scheduled time. *Failure to take the final examination will result in the grade of "F" for the course.*
- **You are expected to do your own work in this class for all assignments. Any violation of this will result, at the minimum, in a grade of zero on that assignment. Academic Misconduct charges will also be filed.**

| Assessment | Points |
|---------------|--------|
| Homework | 100 |
| Tests | 200 |
| Final Exam | 100 |
| <i>Total:</i> | 400 |

| Grading Scale | | |
|---------------|---------|--------|
| Grade | Percent | |
| A | 90% | 100.0% |
| B | 80% | 89.9% |
| C | 70% | 79.9% |
| D | 60% | 69.9% |
| F | 0% | 59.9% |

MIDTERM GRADE REPORTS: Midterm grades will be reported by March 27th, and will reflect approximately 35% of your grade. Based on this grade, students may choose to withdraw from the course and receive a grade of "W". Students pursuing this option must fill out an official withdrawal form, available online from the [Office of the Registrar](#) before the **midterm date of March 3rd**. Student Withdrawals after that day result in an automatic WF unless a hardship exception is granted. (See CSU catalog for hardship criteria.)

ATTENDANCE: Attendance is necessary in order to maintain a good grade in this course, especially since we only meet on campus once a week. Attendance will be taken at the beginning of each class. Students are responsible for all material presented in class. Success on the tests will be highly dependent on attending class and participating in the learning activities designed to apply the material. If you must miss a class, you are responsible for asking another student to fill you in on what occurred in class. Regular attendance is expected and necessary to understand the material. You are responsible for submitting all work by the deadline, whether you attend class or not.

MAKE-UP WORK

- Tests may not be made up unless an excused absence is obtained from the instructor. An unexcused absence will result in a 0 for that test. There are NO make-ups for late quizzes/homework, and the

student will receive a 0.

- To obtain an excused absence, the student must give the instructor a written explanation of the absence **PRIOR** to the class being missed. The instructor will decide if the absence is excusable. You **must** call me immediately, preferably **before** the test is missed.

STUDENT RESPONSIBILITIES: Students must abide by policies in the [Clayton State University Student Handbook](#). Students who violate the conduct code regulations will face disciplinary action and/or University Sanctions. Academic dishonesty will not be tolerated. Academic dishonesty includes, but is not limited to, giving and receiving information. This policy will be enforced. No exceptions. Students who do not conduct themselves appropriately will be asked to leave the classroom.

TECHNOLOGY ETIQUETTE: All materials displayed on your computer at all times during class must support the learning experience in the classroom. This includes screensavers, wallpaper, computer games, email and internet access. Specifically, students are expected to use computers only when requested for classroom use. If you are surfing, playing games, watching videos, emails, or any other activity not related to what is going on in the classroom, I will give you one warning before I turn off your computer. If the behavior continues, I will ask you to leave the classroom for the remainder of the class.

Outside of class, any e-mail sent to the instructor should state your name and identify the class you are taking. Remember to act professionally when sending e-mail to your instructor. Any unprofessional e-mail sent to an instructor will not be tolerated.

ELECTRONIC MESSAGES

- The instructor may send emails with information vital to your success in the course. Check your email often, at least once a day.
- Any voice-mail or e-mail message left will be returned during the regular workweek. The instructor checks e-mail each workday.
- When contacting me via e-mail, you **must** identify the email with your first and last name, the course number, and the section number.
- **Absolutely no graded assignments will be accepted via email.** Assignments must be turned in on paper or as instructed in the assignment.

RESOURCES: I hold regular office hours online and by appointment in person and am willing to help! Another resource to help you is the Center for Academic Success (CAS), which is located on the lower level of the Library. The CAS home page is <http://adminservices.clayton.edu/caa/>. The CAS sponsors a Peer Tutoring Program. Please see the CAS website for more information and to schedule an appointment with a Peer Tutor. Additional group instruction is available from the members of the CAS staff who have advanced mathematics training. There are materials and computer software which may be of help. If you need help on background arithmetic or algebra, there are also videotapes which may be of help. There are numerous books on statistics in the CSU library for further reference and study.

UNIVERSITY POLICIES: See the current Academic Catalog for details on the two policies.

- **NO SHOW Policy:** Any paid student who has failed to attend a class by January 22 will be identified as a “no show.” The “no show” student will be administratively withdrawn from the class, a grade of W will be posted, and the student will NOT be reinstated. Any appeals on the decision are made to the Dean.
- **THREE STRIKES Policy:** A student who has withdrawn or earned less than a satisfactory grade (F, U, D, WF, W) a total of three times in a course at CSU will not be allowed to take the course again. Any appeals on the

decision are made to the Dean.

OTHER NOTES:

- In order to succeed in this course, a student must do each homework assignment. On the average, homework will require three hours, per semester credit hour, of work outside of class each week.
- Any instance of academic dishonesty will be dealt with in accordance with University policies with a **minimum** penalty of a zero being given for any associated work and the filing of Academic Misconduct charges.

NATIONAL EDUCATION STANDARDS: The content of this course syllabus correlates to education standards established by national and state education governing agencies, accrediting agencies and learned society/ professional education associations. Please refer to the course correlation matrices located at the following web site:

<http://a-s.clayton.edu/teachered/Standards%20and%20Outcomes.htm>

DISABILITY SERVICES: Students with disabilities who require reasonable accommodations need to register with Disability Services (DS) in order to obtain their accommodations. You can contact them at 678-466-5445 or disabilityservices@clayton.edu. If you are already registered with DS and are seeking accommodations for this course, please make an appointment with your instructor to discuss your specific accommodation needs for this course and give the instructor your accommodations letter.

All pagers and cell phones must be turned off during class. Please mute your computer speakers in class .

The contents and dates of this syllabus are subject to revisions at the discretion of the instructor .