

THE UNIVERSITY OF TEXAS AT EL PASO
COLLEGE OF SCIENCE
DEPARTMENT OF MATHEMATICAL SCIENCES

Course #: STAT 5388 (CRN 21264)
Course Title: Multivariate Data Analysis
Credit Hrs: 3.0
Term: Spring 2022
Course Meetings & Location: TR 1:30–2:50 pm in Bell Hall 130A
Prerequisite Courses: MATH 5385 or STAT 5385 (or equivalent) with a grade of “C” or higher or Department/Instructor approval
Course Fee: N/A
Instructor/TA: Dr. Michael Pokojovy / NN
Office Location: Bell Hall 224
Contact Info: Phone: (915) 747-6761
E-mail address: mpokojovy@utep.edu
Fax # 915-747-6502 (Math Department)
Emergency Contact: 915-747-5761 (Math Department)
Office Hrs: Instructor: T 11 am – 12 noon (and/or by appointment), TA: TBA
Textbook(s), Materials: Required: Johnson, R.A. and Wichern, D.W. (2008). *Applied Multivariate Statistical Analysis*. 6th ed., Pearson.
Recommended: 1) Flury (1997). *A First Course in Multivariate Statistics*. Springer.
2) Flury, B. and Riedwyl, H. (1988). *Multivariate Statistics. A Practical Approach*. Chapman and Hall.
3) Mardia, K.V., Kent, J.T. and Bibby, J.M. (1979). *Multivariate Analysis*. Academic Press.

Course Description and Learning Outcomes: *Contents:*
This course will give an introduction to multivariate statistical analysis. The topics to be covered will include multivariate normal distribution and multivariate generalizations of classical statistical tests; multivariate multiple linear regression and analysis of variance; principal components and discriminant analysis; factor analysis and canonical correlation, etc. Application examples of real data analysis in R will be provided.

Course Activities/Assignments: In-class lectures accompanied by program demonstrations and group discussions will be given. Sporadically, in-class quizzes will be administered. Homework and/or hands-on labs will be assigned on a regular basis.

Assessment of Course Objectives: Academic performance in this class will be the only factor used in determining the course grade. No extra credit work will be available to improve on any grade. Student performance will be evaluated based on the grades (see Grading Policy below) for in-class quizzes/exams and homework/labs. No late coursework will be accepted (with exception of some extreme situations as deemed by the instructor). Collaboration on homework/labs is generally permitted but each student is required to prepare his or her submission individually.

Identical (or nearly) identical submissions are not permitted and will result in a grade of zero points for the whole paper. All cases of alleged academic dishonesty will be referred to OSCCR for further investigation and adjudication.

Tentative Course Schedule:

- Duration: 1/18/2022 – 5/5/2022
- Midterm exam: TBA
- Final exam: Thu, 5/12/2022 at 1:00 pm – 3:45 pm
- Course drop/withdrawal deadline: Fri, 4/1/2022 (No “W” will be assigned for dropping the course after the deadline!)
- Grades officially available online: Wed, 5/18/2022

Grading Policy: 40% Homework/quizzes
30% Midterm exam
30% Final exam
+3% (if at least 80% of students fill out the evaluation)

Attendance and class participation will be used to help decide grades in “borderline” cases.

The usual grading scale will be used for this course:

90–100% = A
80–89% = B
70–79% = C
60–69% = D
0–59% = F

Make-up Policy: If a class is missed for a valid (as deemed by the instructor) and documented reason and the instructor is informed beforehand, the in-class assignments may be made-up for full credit. All other assignments must be turned in on time.

Attendance Policy: You are expected to attend class so that you can turn in in-class quizzes, labs and homework assignments. Lecture attendance is further required and helpful to decide the grade in “borderline” situations. Five or more unexcused absences will result in an instructor-initiated drop or final grade reduction. *Your academic advisor may be consulted before final action is decided and taken.* If a student has to be absent from a class, he/she will be responsible for catching up with the course material. Late arrivals are not permitted. Being late by 10 minutes or more or leaving the classroom before the class is dismissed will be considered as an absence.

Scholastic Integrity Policy: Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes, but is not limited to, cheating, plagiarism, and collusion. Cheating may involve copying from or providing information to another student, possessing unauthorized materials during a test, or falsifying research data on laboratory reports. Plagiarism occurs when someone intentionally or knowingly represents the words or ideas of another as ones' own. Collusion involves collaborating with another person to commit any academically dishonest act. Any act of academic dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. All suspected violations of academic integrity at The University of Texas at El Paso must be reported to the Office of Student Conduct and Conflict Resolution (OSCCR) for possible disciplinary action. To learn more, please visit [HOOP: Student Conduct and Discipline](#).

Civility Statement: This is a class where participation is required. You will be seated at your desk or in front of a computer for the duration of your class and you are expected to follow the lecture/discussion and at various times complete in-class assignments. You are not allowed to browse the Internet during class time or work on any other material. If you regularly do not complete in-class assignments in a satisfactory manner, participate in class, or if you work on other material in class you will have points deducted from your in-class assignments portion of your grade. All class participants must and will be treated with respect.

Please do not use cell phones, iPods, MP3 players, blue tooth devices, etc., during class. Cell phones and pagers should be set to silent or vibrate, and any calls should be taken outside of class. Please do not wear headsets or blue tooth devices during class. Please do not talk in class. Cell phone calculators may not be used on quizzes or exams. Active participation in class is expected, teamwork in class will be implemented.

Technology Requirements Some of the course content will be delivered via the Internet through the Blackboard learning management system. Ensure your UTEP e-mail account is working and that you have access to the Web and a stable web browser. You will need to have access to a computer/laptop.

IMPORTANT: If you encounter technical difficulties beyond your scope of troubleshooting, please contact the UTEP Help Desk as they are trained specifically in assisting with technological needs of students. The instructor and the TA are *not* responsible for this sort of assistance!

Copyright Statement for Course Materials: All materials used in this course are protected by copyright law. The course materials are only for the use of students currently enrolled in this course and only for the purpose of this course. They may not be further disseminated.

Netiquette: Communication online can be challenging. Therefore, please keep these netiquette (network etiquette) guidelines in mind. Failure to observe them may result in disciplinary action.

- Always consider audience. This is a college-level course; therefore, all communication should reflect polite consideration of others' ideas.
- Respect and courtesy must be provided to classmates and to the instructor at all times. No harassment or inappropriate postings will be tolerated.
- When reacting to someone else's message, address the ideas, not the person.

Blackboard is *not* a public internet venue; all postings to it should be considered private and confidential. Whatever is posted on in these online spaces is intended for classmates and instructor only. Please do not copy documents and paste them to a publicly accessible website, blog and/or other space.

Disability Statement and Accommodations Policy The University is committed to providing reasonable accommodations and auxiliary services to students, staff, faculty, job applicants, applicants for admissions, and other beneficiaries of University programs, services and activities with documented disabilities in order to provide them with equal opportunities to participate in programs, services, and activities in compliance with sections 503 and 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA) of 1990 and the Americans with Disabilities Act Amendments Act (ADAAA) of 2008. Reasonable accommodations will be made unless it is determined that doing so would cause undue hardship on the University. Students requesting an accommodation based on a disability must register with the UTEP Center for Accommodations and Support Services (CASS). Contact the Center for Accommodations and Support Services at 915-747-5148, or email them at cass@utep.edu, or apply for accommodations online via the CASS portal.

Military Statement: If you are a military student with the potential of being called to military service and/or training during the semester, please contact me by the end of the first week of class

COVID-19 Precaution Statement Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms. If you are feeling unwell, please let me know as soon as possible, so that we can work on appropriate accommodations. If you have tested positive for COVID-19, you are encouraged to report your results to covidaction@utep.edu, so that the Dean of Students Office can provide you with support and help with communication with your professors. The Student Health Center is equipped to provide COVID-19 testing.

College of Science Policies: All grades of Incomplete must be accompanied by an Incomplete Contract that has been signed by the instructor of record, student, Department Chair and the Dean. Although UTEP will allow a maximum of one year to complete this contract, the College of Science requests it be limited to month based upon completion data. A grade of Incomplete is only used in extraordinary circumstances confined to a limited event such as a missed exam, project, or lab. If the student has missed a significant amount of work (e.g., multiple assignments or tasks), a grade of Incomplete is not appropriate or warranted.

Resources: UTEP provides a variety of student services and support:

Technology Resources

- [Help Desk](#): Students experiencing technological challenges (email, Blackboard, software, etc.) can submit a ticket to the UTEP Helpdesk for assistance. Contact the Helpdesk via phone, email, chat, website, or in person if on campus.

Academic Resources

- [UTEP Library](#): Access a wide range of resources including online full-text access to thousands of journals and eBooks plus reference service and librarian assistance for enrolled students.
- [Math Tutoring Center \(MaRCS\)](#): Ask a tutor for help and explore other available math resources.
- Individual Resources
- [Military Student Success Center](#): Assists personnel in any branch of service to reach their educational goals.
- [Center for Accommodations and Support Services](#): Assists students with ADA-related accommodations for coursework, housing, and internships.

Last updated on 1/18/2022

Disclaimer:

This syllabus may be subject to changes if these are deemed necessary by the instructor. Despite all efforts, this syllabus may contain typos and errors.