Analysis of Variance and Design of Experiments

Instructor : Dr. Sherwin G. Toribio   *email* : storibio@uwl.edu

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Office hours : MTWRF 11:00 AM - 12:00 Noon or by appointment

Course Description : An introduction to single factor, multiple factor, and randomized block designs in analysis of variance. Inferences, appropriateness of model, model diagnostics/adequacy, and remedial measures are discussed. Analysis of Covariance, Random and Mixed Effects models, Nested Designs, and Repeated Measures will also be discussed. A computer package will be used (R and/or SPSS). Prerequisites: MTH 305/405 or MTH 341/245.

Course Objectives :

- To gain a comprehensive understanding of Analysis of Variance (ANOVA) and Design of Experiments.

- To know when and how to apply the statistical procedures covered in the course.

- To learn how to use a statistical computer package (R and/or SPSS) to implement the procedures covered in the course.

Textbook : *"Applied Linear Statistical Models"*, 5th ed., by Kutner, Nachtsheim, Neter, and Li.

Grading :

3 Long Exams @ 100 pts each	300 pts
1 Comprehensive Final Exam	200 pts
22 Homework @ 10 points each (drop lowest 2)	200 pts
Total points	700 pts

    To get a grade of

A	- one has to get at least 644 (92%) points out of 700.
A/B	- one has to get at least 609 (87%) points out of 700.
B	- one has to get at least 574 (82%) points out of 700.
B/C	- one has to get at least 532 (76%) points out of 700.
C	- one has to get at least 490 (70%) points out of 700.
D	- one has to get at least 420 (60%) points out of 700.

Tentative Exam Dates :

Exams	Dates	Time	Coverage
Exam #1	Feb. 23	Class Time	Chapters 15 to 18
Exam #2	Apr. 6	Class Time	Chapters 19 to 23
Exam #3	May 6	Class Time	Chapters 24 to 27
Final Exam	May 13	4:45 PM - 6:45 PM	Comprehensive

Make-up Exam Policy : In order to be excused from a long exam, you must have a valid reason and you must discuss the matter with me before the exam. In the event that you miss a long exam due to circumstances beyond your control, the final exam will count for a larger part of your grade.

Homework : Homework will be assigned regularly and they will be due at the start of the next class day. All homework should be neatly written. If you miss a class, it is your responsibility to find out what the homework problems are. Because you can drop 2 of your homework scores, no late homework will be accepted!

Attendance : Attendance will be monitored daily and will be considered in the rounding of your final percentage grade. If you miss 2 or less classes, your final percentage grade will be rounded up. If you miss between 3 to 5, your final percentage grade will be rounded to the nearest percentage. If you miss more than 5 class, your final percentage grade will be rounded down. Based on my experience, students start having difficulties when they miss classes. So it is for your own benefit to attend all lectures. If you have to miss a class, make sure that you learn the material that you missed before the start of the next class.

Classroom Courtesy : Please turn off your cellphones, ipods, and tablets when you get into the classroom. If you have to leave early, please let me know at the beginning of class and make a quiet exit.

Academic Honesty Policy : Academic dishonesty will NOT be tolerated in this classroom. If you are caught cheating in an exam, it will result in an automatic F in that exam and a written reprimand to be included in the student's disciplinary file. Do not even let yourself come under suspicion of dishonesty.

Accommodations : Any student with a documented disability (e.g., physical, learning, psychiatric, vision, or hearing, etc.) who needs to arrange reasonable accommodations must contact the instructor and the Disability Resource Services Office (165 Murphy Library, 785-6900) at the beginning of the semester.

NOTE: By now, you should already know that Mathematics/Statistics is not a spectator sport. It requires daily participation, both in the classroom and in the homework. This might be a difficult class for some of you. Find a study partner or a group. Two heads are usually better than one and it makes the work a lot more fun.....

Good luck and I hope you will do well in this course!