MATH 5910: Linear Statistical Modeling and Regression
Spring 2026

Instructor:
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Class Web Page:
http://faculty.uml.edu/jongsoo_lee/5910S26.html

Classroom and Time:
Olsen 403
M 6:30-9:20 PM

Office Hours:
W 8:00-9:30 AM
Or by appointment

Texts:
Required text:

- Weisberg, *Applied Linear Regression*, 4th Edition, Wiley.

Other reading material and notes may also be distributed.

Overview:
This course introduces regression and linear models. Topics include: theory of linear models, simple regression, multiple regression, model computation and interpretation, extension of regression models (weighted regression, polynomial regression, regression with factors), transformation, diagnostics, outliers/influence, variable selection. Other topics in the textbook as time permits.

This course will blend methodological theory with computing and application. Matrix and linear algebra techniques will be used throughout the course, as well as some mathematical statistics techniques (see Appendix of Weisberg for more information).

We will use R software for the computing. The students will be expected to demonstrate sufficient competency of R throughout the semester.

Class Participation:
Students are strongly encouraged to participate in class activities. These include preparing for and answering in-class queries, asking thoughtful questions, and in general positively contributing to the learning of material. Substantial and meaningful contributions outside of classroom count as participation as well.

Homework:
Homework will be assigned regularly, but will NOT be collected. Instead, the solution will be available for the students to check. Be sure to attempt and complete the homework problems to understand the material and to prepare for quiz/exams.

Quiz:
There will be regular in-class quizzes, mostly on the weeks that we do not have exams. The purpose of the quiz is to assess the student understanding of homework and course material, and thus will cover the homework due on the day of the quiz (and the corresponding lecture material). The quizzes will be closed-book and closed-notes.

Exams:
There will be three (3) in-class exams.

Exam 1:	Monday, February 23
Exam 2:	Monday, March 23
Exam 3:	Monday, April 27

All exams are closed-book, but you may bring a limited amount of notes. The exams will NOT be cumulative. There is NO final exam.

Attendance Policy:
Attending every class is required, and you are responsible for everything said in class. Excused absences require valid justification, and make-up works are at the discretion of the instructor.

Academic Integrity:
Academic dishonesty is prohibited in all programs of the University and sanctions may be imposed on any student who commits an act of academic dishonesty. Details on UML policy can be found at: `http://www.uml.edu/Catalog/Graduate/Policies/Academic-Integrity.aspx`.

Course Grade (approximate):

- 40% Quiz and participation
- 20% Exam 1
- 20% Exam 2
- 20% Exam 3