# Course and Grading Overview

## About the Course

This Applied Logistic Regression course provides theoretical and practical training for epidemiologists, biostatisticians and professionals of related disciplines in statistical modeling with particular emphasis on logistic regression.

The increasingly popular logistic regression model has become the standard method for regression analysis of binary response data in the health sciences.Statistical modeling is a fundamental element of analysis for statisticians, epidemiologists, biostatisticians and other professionals of related disciplines. People in the health sciences profession rely on regression modeling to gain insight on make decisions based on a continuous flow of response data.

This is a hands-on, applied course where students will become proficient at using computer software to analyze data drawn primarily from the fields of medicine, epidemiology and public health.

There will be many practical examples and homework exercises in this class to help you learn. If you fully apply yourself in this course and complete all of the homework, you will have the opportunity to master methods of logistic statistical modeling and you will become a confident user of the Stata package for computing linear, polynomial and multiple regression.

## Weeks and Themes

**Week One:** Introduction to Logistic Regression Analysis

**Week Two:** The Likelihood Ratio and the Wald Test

**Week Three:** Interpreting Coefficients

**Week Four:** Polychotomous Variables

**Week Five:** Interactions and Confounding

**Week Six:** Stratified Analysis and Goodness of Fit

**Week Seven:** Model Calibration and Discrimination

**Week Eight:** Illustrating Numerical Problems and Using Logistic Regression for Patient Decision Making

## Quizzes and Homework

Each week will have a 6 or 7 question quiz based on the material covered in the course lectures for the week.

Each week will also have practical homework exercises. These exercises are ungraded and we will provide solution sets for them. To learn and understand regression analysis, one needs to *DO* regression analysis.

In order to feel confident that you are developing a practical understanding of logistic regression analysis, please take care to practice and work diligently through the homework exercises. We provide the solutions to help you as a guide, in an effort to help you understand the "why" and "how" of logistic regression analysis.

## Philosophy of Success

If you want to succeed in this class with an intrinsic confidence that you've learned something substantive and applicable then understand that **you will *need* to complete the homework exercises**.

The homework exercises are not graded, however they will give you practice and insight from which you can develop a practical understanding of logistic regression analysis...which is one of the reasons why many students choose to take this course.

We do not consider the quiz scores in this course as an indicator of successful development of understanding and applicable skill in regression analysis. To that end, we are **not** offering a Statement of Accomplishment *with Distinction* option for this course.

We will offer a standard Statement of Accomplishment to students who earn a minimum of **85%** of the total possible points from the quiz scores. This statement does not indicate that a student has developed understanding or mastery in logistic regression analysis, but rather that a student has passed the quizzes.

## Course Time Zone Designation

All deadlines and other times in this course will be based on Eastern Daylight Time (EDT). EDT is 4 hours behind Coordinated Universal Time (UTC).

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