SYLLABUS MATH 7/8 Categorical Data Analysis

Spring 2016 Professor: Dr. Dale Bowman Office: 357 Dunn Hall Email: <u>ddbowman@memphis.edu</u> Office hours: MW 12:30 – 1:30 and by appointment

Text: Categorical Data Analysis, by Alan Agresti, Wiley, 3rd edition or any previous edition.

Topics covered will include: Distributions and inferences for categorical data, inference on contingency tables, generalized linear models for categorical data, logistic regression, Bayesian inference for categorical data, multinomial models, clustered categorical data, random effects models, classification and clustering using categorical data.

Evaluation:

There will be two in class tests and one final exam.

Weekly homework will be assigned to be turned in. These homeworks must be typed in a mathematical typesetting program such as latex. Those taking the course at the 8000 level are required to use latex.

Additionally there will be one project during the semester where the student will analyze categorical data and write a report detailing what methods were used, what model checking methods were used, results obtained and other information to be discussed. This report must be typed (in latex for 8000 level students). Either SAS or R must be used to analyze the data for these projects.

Each of the three tests, homework, and project will count for 1/5 of the student's final grade. The student's letter grade will be obtained according to the following scale:

 90-100%
 A

 80-89%
 B

 70-79%
 C

 60-69%
 D

 below 60%
 F

No makeup tests will be given and no late homework or project will be accepted. If a student must miss an exam for an excused reason, the student's final grade will be computed without the exam. In this event each of the remaining 2 exams, homework and project will each count 1/4th toward the final grade. If a student misses an exam without an excuse, a grade of zero will be assigned for that exam. If a student fails to turn in a homework assignment by the due date, a zero will be assigned for that homework. If a student fails to turn in a project by the due date, a zero will be assigned for that project. Ample time will be provided for the student to complete homework and projects.

This syllabus is designed to be a guideline for the course. The instructor reserves the right to make changes to the syllabus that may be deemed necessary as the semester progresses.