

MTH109 COURSE SYLLABUS

PROFESSOR: JIM NORRIS (x4888; Manchester (West) 330; norris@wfu.edu)

Goals: To introduce proper methods for the collection, analysis and interpretation of information. To introduce the mathematical underpinnings of these methods and to examine models which involve random components.

Requirements: Attendance at all class sessions (except excused absences) with the assigned preparation and homework being completed before the beginning of the class session. Purchase (and study) textbook: STATISTICS (3rd edition) by Freedman, Pisani, Purvis. Be a constructive participant in discussions.

Method of evaluation: Attendance. Homework. Projects to be assigned throughout the course. Regular tests will be given about every 3 weeks, on Fridays. Short (10-15 minute) quizzes given on every non-test Friday. Comprehensive Final Exam.

Topic

Quizzes (combined)	100
Projects, Homework, Attendance (combined)	100
Test 1	100
Test 2	100
Test 3	100
Test 4	100
Final Exam (During MTH/BUS block) Tues May 8, 9am-noon)	150

My Office Hours (Manchester Hall 330): Tuesday 10-11am; Wednesday 4-5pm; most Thursday 10:00-11:45am; Friday 10-11am. You can make an appointment if you want to meet at another specific time. Also, feel free to call, email, or drop by my office at any time.

Graduate Student-Run Help Sessions: Times and Place to be Announced

List of Topics for Elementary Probability and Statistics (MTH109)

Experimental Design

Observational Studies

Sampling

Exploratory Data Analysis

Descriptive Statistics

Normal Curve

Measurement Errors and Quality Control

Correlation between two quantitative variables

Regression between two quantitative variables

Probability

Random variables

Binomial Theorem

Box Models

Expected Values and Standard Errors of (process) random variables

Approximate Probabilities for Sums

Statistical Inferences about population percentages: estimates, probs, confidence intervals

Statistical Inferences about population averages: estimates, probs, confidence intervals

Tests of hypotheses: general

Test of hyp for population percentage or average (large sample)

Test of hyp for population average (small sample, but normal distribution)

Test of hyp for differences in population averages, percentages

Test of hyp for model

Test of hyp for independence between two qualitative variables

Assigned Homework Problems in the Book.

Chapter: Problems:

2	A:4, 5, 9; R: 5, 6, 8, 10, 11
3	A: 3, 4, 8; D:1, 2; E:1; R:9, 11
4	A:1, 8, 9; B:1, 6; c:1, 6; D: 3, 6, 7; E:1; R:2, 6, 9, 12
5	A: 1; B:1, 3, 4; C:2; D:2, 5; E:3; R:3, 5
6	R:1, 2, 4, 5
7	A:1, 2; B:1; C:1; D:1; E:4,6
8	A:3,6; B:1 ^a ,6,7,8,9; C:1,2,4; D:1 ^a ; R:1,5,7,8,11
9	A:1,2,3,4,6,7; B:3,4; C:1,3; D:2; R:10,11,12
10	A:2; B:2,4; C:2, D:1,2; R:5,7,8,10
11	A:1,2,3,4; B:3; C:1,2; D:1,2,4; E:1,2,3; R:4,6,8,10
12	A:2,4; B:3,5; R:3,4,8,12
13	A:2,3,4,5; B:4; C:1,2,5; D:1,2,6,8; R:11,12
14	A:2,4; B:2,3; C:1; D:1,6; R:3,9,13,14
15	A:1,3,4,6; R:1,2,3,4,9,10,11
16	A:1,4,6,9; B:1,3,5; C:1,2; R:1,6,10
17	A:1,2,3,6; B:1,2,3; C:1,5,7,8; D:3,4; E:3,4,8; R:6,8,10,11,12
18	A:1,2,4,5; B:1,5; C:1,3,4,5; R:5,6,10,12,14
19	A:1,2,4,6,8,9,10; R:4,6,12
20	A:1,2,3,7,8; B:1,4; C:1,2,5; R:3,7,12
21	A:1,4,5,6,8; B:1,2; C:1,4; E:1; R:1,2,4,11,12
22	A:1,2,5; R:1,7,8,9,10
23	A:1,6,10; B:1,5,6,7,9; C:1,4; D:6; R:3,8,11,12
24	A:2,5; B:1,3,5; C:2,4,6,7,8; R:7,8,11
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26	A:3,5; B:3,5; C:1,2,7; D:3,5; E:1,2,6,10; F:4,5,6,7; R:2,3,5,6,7,10
27	A:2,4,6; B:7; R:8,9
28	A:1,3,5,7; C:2,3,7; R:7,8,10
29	A:2; B:1,2; C:6,8; D:5; E:3; R:6,12

NOTE: Additional “non-book” homework problems will be assigned. Also, projects will be periodically assigned.