

**Syllabus Math 301-01, 601-01
Lagniappe Term 2006**

Instructor: John Liukkonen **Office:** 405 Gibson **email:** jrl@math.tulane.edu

Text: Olofsson, Probability, Statistics, and Stochastic Processes, Wiley

Prerequisite: Calculus through double integrals.

Contact: I am happy to meet with students outside of class to discuss problems or concerns. Also, students are encouraged to email me. To set up an appointment, see me in class or send an email.

Attendance: Regular attendance is ESSENTIAL. Even during a regular term we cover a lot of different material with many fine points, and irregular attenders miss out on these fine points. The limited time of the Lagniappe Term means there will be even less opportunity to catch up on material missed by skipping a class.

What this course is about: This course is a survey of the large field of probability and statistics. We begin with basic probability theory (the mathematics of chance), including a number of entertaining and illuminating questions about elementary matters of chance. Then we extend our study of probability to the study of key distributions of randomly generated data. This section will make use of your calculus background and beef up your skills in this area. Finally we get to statistics, the science of drawing conclusions about populations based upon random samples from those populations.

What you can expect: Assuming you pursue the course diligently, you can expect at the end of the course to have encountered some interesting new scientific phenomena, to have improved your math and calculus skills, and to have a solid grounding in elementary statistical procedures.

Technology: A scientific calculator which will carry out statistical calculations, especially the sample mean and variance. The TI-83 or T-84 are ideal for this course, but if you have a different calculator, check with me.

Homework: assigned from the list of problems below. These unfortunately will not be collected and graded but quizzes and tests will have heavy input from them and keys will be provided. I guarantee that working these conscientiously will make a difference in your grade.

Quizzes: There will a 15 minute quiz each Tuesday except the first week when it is Wednesday. We will drop your low quiz.

Tests: There will be a thirty minute test at the end of each Thursday class. We will drop your low 30 minute test.

Final Exam: There will be a one hour and fifteen minute test Thursday June 29 (last day of class).

Grade policy: Final Exam 30%, Total of 30 minute tests 50% each, Quiz Total 20%. You are entitled at a minimum to the usual grade indicated by your semester average (90-100 A, etc). If I am convinced that you know the material better than your average indicates, I will increase your grade. However owing to the relatively brief final exam this effect will not be as pronounced as usual.

Makeup policy: There will be no makeups on quizzes or tests, as we have extra quizzes and tests scheduled. In the event of EXCUSED absences on tests (e.g. documented medical problem) we will base your grade on your remaining work. Everyone MUST take the final exam.

Homework problems:

Chapter 1 Sec 3: 9 Sec 4: 16, 18, 25, 26, 27 Sec 5: 48, 53, 59 Sec 6: 64, 65, 67, 79, 81, 84

Chapter 2 Sec 2: 1,5 Sec 3: 12, 13, 19 Sec 4: 26, 27, 35 Sec 5: 44, 48, 49, 55, 56 Sec 6: 62, 63, 65 Sec 7: 69, 70
Sec 8: 81

Chapter 3 Sec 3: 12 Sec 4: 14, 16, 17 Sec 5: 25, 28, 31, 34, 36 Sec 7: 69, 71, 74 Sec 8: 85, 87, 92, 99 1

Chapter 4 Sec 3: 13, 15

Chapter 6 Sec 3: 16, 17, 18, 19, 38 Sec 4: 43, 44, 50, 51, 52 Sec 5: 57, 58, 59, 60, 64, 69, 71

Also read the class handout Pedestrian Inference and do Practice Problems associated with that handout.