

# Math 372 – Mathematical Statistics      Spring 2017

**Professor: Erich Friedman**

**About the course:** We will meet MWF at 11:00 in Elizabeth 313. We will cover some of the material in chapters 8 and 10–16 of the text, the out-of-print 6<sup>th</sup> edition of *John E. Freund's Mathematical Statistics* by Miller and Miller. This is a survey course in mathematical statistics, and the topics we will cover are: point estimates and their properties, interval estimation, hypothesis testing, non-parametric tests, and regression and correlation. We will be dealing with the normal distribution often, and use it to derive and use the  $\chi^2$ ,  $t$ , and  $F$  distributions. This course emphasizes theory and derivation. To concentrate on the calculations, consider taking Math 125 Introduction to Statistics or Stat 301 Business Statistics. For more detail about chapter 14, you may wish to take Stat 440 Forecasting. For more detail about chapters 13, 15, and 16, you may wish to take Stat 460 Experimental Design and Advanced Data Analysis.

**About me:** My email is [efriedma@stetson.edu](mailto:efriedma@stetson.edu). My office hours this semester are MWF 10:00–11:00 and W 12:00–1:00. I am always in my office during these times. If you cannot make my regularly scheduled hours, let me know and we can set up another time to talk. Please come by if you need help, or if you just want to chat.

**About you:** You will need a good working knowledge of probability, including densities and distribution functions, and the more common distributions such as the Uniform, Poisson, Normal, Exponential, and Binomial distributions. You will need a calculator with statistical functions, though I will indicate how to do some things in Mathematica.

**About Quantitative Reasoning:** In order to assure that Stetson University is meeting its goals in providing an excellent General Education, the College has established specific General Education Learning Outcomes for all courses meeting a particular area requirement in the General Education curriculum. To monitor how well students are meeting those outcomes, instructors of those courses regularly submit work to the committees assessing each outcome. While the outcomes of these assessments are primarily for our internal use in monitoring and enhancing our curriculum, we may occasionally report the results of these assessments in published research or academic conferences. All reports will include only aggregate data and will not include information that could identify the student or the instructor. While the use of this information within the institution is part of normal educational practice, you may choose not to allow data derived from your own work to be used for published reports or presentations by signing an “opt out” form in the Registrars office.

**About Accommodations:** If you anticipate barriers related to the format or requirements of a course, you should meet with the course instructor to discuss ways to ensure full participation. If disability-related accommodations are necessary, you should register with the Academic Success Center (386-822-7127; [stetson.edu/asc](http://stetson.edu/asc)) and notify the course instructor of your eligibility for reasonable accommodations. You, the course instructor and the Academic Success Center will plan how best to coordinate accommodations.

### **About your grade:**

- **Homework** will not be collected, but I will answer questions in class as time permits. I have handed out complete solutions to the homework problems, so there may be fewer questions than usual.

- **Quizzes** will be given occasionally to encourage you to keep up with the material in a timely manner. There will be 5 quizzes, each worth 50 points.

- **Take Home Tests** will be given after the 5 major topics. You are allowed to use your textbook, your notes, your calculator, your computer, and your brain. You are not allowed to use library books, the internet, or other people. You will be expected to show your work and justify your answers. Each test will be worth 100 points.

- **The Final Exam** will be a 2-hour in-class exam and will be worth 250 points. There are 1000 points total. There is no extra credit available.