

MS in Statistics Mathematics Preparation Form

Please complete and submit with your application to the MS in Statistics program.

1. Do you have an undergraduate probability textbook? _____ If yes, what title and author?

2. Do you have an undergraduate mathematical statistics textbook? _____ If yes, what title and author?

3. Have you used some statistical and/or mathematical software? _____

If yes, what? _____

Do you currently have access to a computer with this software? _____

4. In what courses you have taken have you covered each of these topics? List the courses in the table and then refer to them in this top list by the "Ref #" so you don't have to repeatedly write the title. Use the back of the page if you need more room to list your courses.

List statistics and probability courses you have taken (and passed):

Ref #	Name of course	Level (Upper division undergrad, etc.)	Textbook (Title, author, or whatever you remember)	When and where
1				
2				
3				
4				
5				

- a. Converting an experiment with a random outcome to a random variable and choosing an appropriate probability distribution. **Course Ref. #** _____
- b. Basic probability calculations in standard discrete and continuous distributions, including distributions such as the gamma and beta which require skill at handling two parameters. **Course Ref. #** _____
- c. Computation of expected values and variances in a variety of distributions. **Course Ref. #** _____
- d. Joint and marginal distributions, conditional distributions, covariance, independence. **Course Ref. #** _____
- e. Familiarity with basic ideas about sampling and experimental design. **Course Ref. #** _____
- f. Use and interpretation of confidence intervals and hypothesis tests. **Course Ref. #** _____
- g. Power calculations for hypothesis tests. **Course Ref. #** _____
- h. Sampling distributions of sample means and sample proportions. **Course Ref. #** _____
- i. Sampling distributions of minimum and maximum statistics. **Course Ref. #** _____
- j. Finding maximum likelihood estimators. **Course Ref. #** _____
- k. Comparison of estimators, using bias and comparison of variances. **Course Ref. #** _____