

Prerequisites Worksheet for MS in Applied Statistics (code MATHMS03)

Please indicate on the line beneath each course description the course or courses from your transcript that you feel are equivalent to each prerequisite. You need not have satisfied all requirements in order to be admitted conditionally as a graduate student. You may clear up any deficiencies by taking the necessary courses at CSULB; such courses will not count as part of the 30 units required for the MS degree.

1. MATH 247. Introduction to Linear Algebra.

Prerequisites: Prerequisite or corequisite: MATH 224. Matrix algebra, solution of systems of equations, determinants, vector spaces including function spaces, inner product spaces, linear transformations, eigenvalues, eigenvectors, quadratic forms and applications. Emphasis on computational methods.

Course: _____ Where taken: _____

2. 361A. Introduction to Mathematical Analysis I

Prerequisites: MATH 222 or 224 and MATH 233 or 247. Rigorous study of calculus and its foundations. Structure of the real number system. Sequences and series of numbers. Limits, continuity, and differentiability of functions of one real variable. Students will be asked to write valid mathematical proofs.

Course: _____ Where taken: _____

3. 323. Introduction to Numerical Analysis

Prerequisites: MATH 222 or 224 and a course in computer programming. Numerical solution of nonlinear equations, systems of linear equations, and ordinary differential equations. Interpolating polynomials, numerical differentiation, and numerical integration. Computer implementation of these methods.

Course: _____ Where taken: _____

4. 380. Probability and Statistics

Prerequisites: MATH 222 or 224. Frequency interpretation of probability. Axioms of probability theory. Discrete probability and combinatorics. Random variables. Distribution and density functions. Moment generating functions and moments. Sampling theory and limit theorems.

Course: _____ Where taken: _____

5. 381. Mathematical Statistics

Prerequisites: MATH 247 and 380. Estimation and hypothesis testing. Maximum likelihood and method of moments estimation. Efficiency, unbiasedness, and asymptotic distribution of estimators. Neyman-Pearson Lemma. Goodness-of-fit tests. Correlation, and regression. Experimental design and analysis of variance. Nonparametric methods.

Course: _____ Where taken: _____

6. Your name: _____