PREREQUISITE WORKSHEET FOR

MASTERS IN MATHEMATICS, OPTION IN APPLIED MATHEMATICS

The courses listed below, or their equivalents, are required prerequisites for the Applied Math Graduate Program. Fill out the form below and email it to graduate advisor listed on Applied Math Graduate Program.

Under each course, fill out the course number, the semester or quarter and year (for example, Fall '20), institution at which you completed the course, and your grade in the course.

Your Name: _____ E-Mail: _____

MATH 247. Introduction to Linear Algebra
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.

Institution: _____ Semester or Quarter/Year: _____

Course Number: _____ Grade: _____

MATH 323. Introduction to Numerical Analysis
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.

Institution: _____ Semester or Quarter/Year: _____

Course Number: _____ Grade: _____

MATH 361A. Introduction to Mathematical Analysis I
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. Note: This is a junior level analysis course, not Calculus I.

Institution: _____ Semester or Quarter/Year: _____

Course Number: _____ Grade: _____

MATH 361B. Introduction to Mathematical Analysis II
Riemann integration. Topological properties of the real number line. Sequences of functions. Metric Spaces. Introduction to the calculus of several variables. Students will be asked to write valid mathematical proofs.

Institution: _____ Semester or Quarter/Year: _____

Course Number: _____ Grade: _____

MATH 364A. Ordinary Differential Equations I
First order differential equations; undetermined coefficients and variation of parameters for second and higher order differential equations; series solution of second order linear differential equations; systems of linear differential equations; applications to science and engineering.

Institution: _____ Semester or Quarter/Year: _____

Course Number: _____ Grade: _____

MATH 380. Probability and Statistics
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.

Institution: _____ Semester or Quarter/Year: _____

Course Number: _____ Grade: _____