K-STATE MATH COURSES FOR SUMMER 2010

This summer, the solution to your math problems is as simple as attending K-State summer sessions. Rated one of the strongest and best math departments in the country by its students, the K-State math department has a wide variety of choices this summer. From lower division algebra, calculus, and geometry courses to a wide variety of upper division courses of interest to math, engineering, and physics majors alike, the Department of Mathematics has something to offer you.

Running June 7 through July 30, most summer session courses are offered in a condensed 8-week format. New students should contact Admissions (www.k-state.edu/admit/). Enrollment for the summer semester begins simultaneously with enrollment for the fall of 2010 on ISIS (https://isis.k-state.edu/psp/ISIS/?cmd=login). Campus parking and on-campus housing will be available.

### Lower Division Courses:

**MATH 010:** Intermediate Algebra
Basic study of functions, graphing, and linear systems.

**MATH 100:** College Algebra
Study of coordinate systems, functions, polynomials, zeroes of polynomials, systems of equations, inequalities, and matrices.

**MATH 150:** Plane Trigonometry
Exploration of the six trigonometric functions and identities.

**MATH 205:** General Calculus and Linear Algebra
Calculus concepts explored and applied for economics and business majors.

**MATH 220:** Analytic Geometry and Calculus 1
An introduction to calculus. Basic concepts in integrability and differentiability are covered.

**MATH 221:** Analytic Geometry and Calculus 2
Topics include transcendental functions, techniques in integration, infinite series, and convergence tests.

### Upper Division Courses:

**MATH 222:** Analytic Geometry and Calculus 3
Calculus concepts are explored and applied in multiple dimensions.

**MATH 240:** Elementary Differential Equations
Study of basic differential forms with emphasis on constant-coefficient linear equations, series methods, and the Laplace transform.

**MATH 499A:** Topics in Undergraduate Mathematics
Independent study in undergraduate level mathematics of the student's choice with the consent of an instructor to direct the study.

**MATH 551:** Applied Matrix Theory
Examines linear algebra concepts and their application to systems of linear equations. This technique is used in the discussion of vector spaces, the eigenvalue problem, least squares, quadratic forms and linear programming.

**MATH 599:** Topics in Mathematics
Courses on special topics to be taught on sufficient demand.

**MATH 710:** Introduction to Category Theory
Categories, duality, special morphisms, functors, natural transformations, limits and colimits, adjoint situations, and applications.

**MATH 760:** Probability Theory
An introduction to the mathematical theory of probability. Material covered includes combinatorial probability, random variables, independence, expectations, limit theorems, Markov chains, random walks, and martingales.

**MATH 992:** Topics in Analysis
Selected topics in modern analysis.