10. Mathematics of the Elementary School (3)

Not open to students with credit in Ed 107. Prerequisite: elementary algebra and geometry, second semester sophomore. Tests covering the ordinary operations of arithmetic; fundamental concepts, unit plan of organizing subject matter; analysis of skills and difficulties.

21. Elementary Astronomy (3)

Prerequisite: elementary algebra and geometry. Nontechnical fundamental principles and facts of astronomy; appreciation of the wonders of the universe.

27. Elementary Algebra (3)

Transition from arithmetic to symbolism and generalization of algebra, fundamental operations, equations, formulas. (See *Duplication of Courses*)

28. Plane Geometry (3)

Prerequisite: Math 27. Points, lines, angles, triangles, polygons, circles; axioms, theorems, problems; proofs and constructions. (See *Duplication of Courses*)

40. Introduction to Statistical Methods (3)

Not open to students with credit in Math 107, 109. Prerequisite: sophomore standing, Math 27, 28. Organization of data, descriptive measures, sampling, statistical inference, testing hypotheses, chi-square, correlation and regression.

101. Principles of Geometry (3)

Prerequisite: Math 3. Fundamental concepts and constructions of plane synthetic geometry; the point, line, triangle, and circle; similarity, concurrency, collinearity, inversion, harmonic division, poles and polars.

102. Principles of Algebra (3)

Prerequisite: Math 4. Number systems; elementary theory of groups, rings and fields; polynomials and theory of equations; determinants, matrices and linear systems.

103. History of Mathematics (3)

Prerequisite: Math 3. Development of mathematics from primitive times; influence of social and economic changes; emphasis on mathematics prior to the nineteenth century.

106. Projective Geometry (3)

Prerequisite: Math 101, 102 or permission of instructor. Synthetic and analytic projective geometry: axioms; duality; perspective and projective correspondence; harmonic sets; coordinatization; projective collineations and correlations; polarities and conics; groups of projective, affine and Euclidean transformations.

107. Probability and Statistics (3)

Prerequisite: Math 4. Introduction to statistics, mathematical development of probability, measures of central tendency and variability, moments, normal distribution, linear correlation.

108. Advanced Statistics (3)

Prerequisite: Math 107. Theory of sampling; problem of estimation; tests of significance; statistical hypotheses; confidence limits; the t, F, and chi-square distributions; analysis of variance and covariance; application of certain tools and techniques.

109. Probability (3)

Prerequisite: Math 6 or 7A. Classical and axiomatic viewpoints; joint, marginal, and conditional probabilities; Bayes' theorem; repeated trials; convolutions; limit theorems.