

NOTES.

THE twenty-third summer meeting of the American Mathematical Society will be held at Harvard University early in September, 1916. At the eighth colloquium of the Society, held in connection with this meeting, courses of lectures will be delivered as follows: By Professor G. C. EVANS: "Topics from the Theory and Applications of Functionals, including Integral Equations." By Professor OSWALD VEBLEN: "Analysis Situs."

THE opening (September) number of volume 17 of the *Annals of Mathematics* contains the following papers: "A functional equation in the kinetic theory of gases," by T. H. GRONWALL; "Démonstration simplifiée du théorème fondamental de M. Montel sur les familles normales de fonctions," by C. DE LA VALLÉE POUSSIN; "Functions which map the interior of the unit circle upon simple regions," by J. W. ALEXANDER, II; "The iteration of functions of one variable," by A. A. BENNETT.

THE following courses in mathematics are announced for the present winter semester:

TECHNICAL SCHOOL AT DELFT.—By Professor W. J. v. RAAY: Determinants and introduction to the calculus, three hours; Descriptive geometry, three hours; Kinematics and equilibrium, three hours.—By Professor W. A. VERSLUYS: Higher algebra and foundations of the calculus, five hours; Advanced calculus, three hours.—By Professor J. A. SCHOUTEN: Chapters of higher algebra, one hour; Analytic geometry, two hours; Methods of projection, four hours; Curves on given surfaces, four hours.—By Professor J. G. RUTGERS: Plane analytic geometry, two hours; Analytic geometry of space, two hours; Projective methods, four hours; Curves on given surfaces, four hours.—By Professor J. CARDINAAL: General dynamics, two hours; Kinematics, two hours; Introduction to general kinematics, two hours; Advanced kinematics, two hours.—By Professor J. KLOPPER: Introduction to mechanics, one hour; Graphical methods, three hours; Applied mechanics, three hours.

UNIVERSITY OF MUNICH.—By Professor F. LINDEMANN: Analytic mechanics, four hours; Introduction to the theory of ordinary and partial differential equations, four hours; Theory of higher algebraic curves, two hours; Seminar, two hours.—By Professor R. v. SEELINGER: Figures of the planets and introduction to the theory of potential, four hours.—By Professor A. VOSS: Differential calculus, four hours; Analytic geometry of curves and surfaces, four hours.—By Professor A. PRINGSHEIM: Elements of the theory of functions, five hours.—By Professor A. SOMMERFELD: Thermodynamics and the kinetic theory of gases, four hours; Seminar, two hours.—By Professor H. BRUNN: Elements of higher mathematics, four hours.—By Dr. F. HARTOGS: Descriptive geometry, with exercises, eight hours.—By Dr. F. BÖHM: Selected chapters of mathematical statistics, two hours; Elements of the calculus of insurance, two hours; Seminar, two hours.—By Dr. H. DINGLER: Elementary mathematics, four hours.—By Dr. A. ROSENTHAL: Integral calculus, with exercises, five hours.

UNIVERSITY OF STRASSBURG.—By Professor F. SCHUR: Analytic geometry of two and three dimensions, four hours; Selected chapters of differential geometry, two hours; Seminar, two hours.—By Professor G. FABER: Differential and integral calculus, four hours; Elliptic functions, two hours; Seminar, two hours.—By Professor M. SIMON: History of mathematics in ancient times, two hours.—By Professor J. WELLSTEIN: Graphical statics, three hours.—By Professor S. EPSTEIN: Analytic treatment of projective geometry, two hours.—By Dr. A. SPEISER: Perspective, two hours.

AT Brown University Professor R. G. D. RICHARDSON has been made full professor and head of the department of mathematics.

AT Dartmouth College Drs. R. D. BEETLE and F. M. MORGAN have been promoted to assistant professorships of mathematics.

DR. BESSIE I. MILLER has been appointed professor and head of the departments of mathematics and physics at Rockford College.

AT the University of North Dakota Professor R. R. HITCHCOCK has been made full professor and head of the department of mathematics.

AT Harvard University Dr. E. V. HUNTINGTON has been promoted from an assistant professorship to an associate professorship of mathematics.

AT the University of Michigan Junior Professors PETER FIELD, L. C. KARPINSKI, and T. R. RUNNING have been promoted to associate professorships of mathematics. Drs. TOMLINSON FORT and T. H. HILDEBRANDT have been promoted from instructorships to assistant professorships of mathematics. Dr. A. L. NELSON has been appointed instructor in mathematics.

AT the University of Illinois Dr. J. B. SHAW has been promoted from an assistant professorship to an associate professorship of mathematics. Dr. L. T. WILSON has been appointed instructor in mathematics.

AT Vassar College Dr. LOUISE D. CUMMINGS has been promoted from an instructorship to an assistant professorship of mathematics. Dr. MARY E. WELLS has been appointed instructor in mathematics.

AT Iowa State College Miss J. T. COLPITTS has been promoted from an assistant professorship to an associate professorship of mathematics.

AT Wesleyan University Dr. J. K. LAMOND has been promoted from an instructorship to an associate professorship of mathematics.

AT Cornell University Dr. JOSEPH SLEPIAN has resigned his instructorship in mathematics, to enter the engineering profession. Mr. H. BETZ has been appointed instructor in mathematics.

DR. NATHAN ALTSHILLER, of the University of Washington, has been appointed instructor in mathematics in the University of Colorado.

THE following appointments to instructorships in mathematics are announced: Dr. R. B. ROBBINS, Sheffield Scientific School; Dr. C. E. WILDER, Pennsylvania State College; Mr. W. L. HART, University of Montana.