

Charles Parsons Nicholas

- Born 15 September 1903
- 12 June 1925: graduated USMA and promoted to Second Lieutenant in Field Artillery
- 1927-1928: Instructor USMA Preparatory School, Hawaii
- Aug 1930-Aug 1935: Instructor of Mathematics, USMA
- Jul 1941-May 1942: Associate Professor of Mathematics, USMA
- 1947-1948: Deputy Assistant Director of Central Intelligence, National Security Council
- June 1948-Oct 1959: Professor of Mathematics, Deputy Head of Mathematics Department, USMA
- Oct 1959-Sep 1967: Professor of Mathematics, Head of Mathematics Department, USMA
- Died 4 September 1985, age 81

Charles Parsons Nicholas was born in Shelbyville, Kentucky on September 15, 1903. His childhood was spent in and around his parents' home near Louisville, Kentucky. He graduated from the Louisville Male High School in 1921. He became a cadet on July 2, 1921, at the age of seventeen. Cadet Nicholas graduated 45th in the Class of 1925 and was commissioned a Second Lieutenant in the Field Artillery on June 12, 1925.

For five years after graduating from USMA, LT Nicholas served in artillery units at Fort Benjamin Harrison, at Schofield Barracks and at Fort Sill, with a one year interruption as an instructor in English at the USMA Preparatory School in Hawaii.

In 1930, LT Nicholas career turned toward its ultimate pattern when he was ordered to West Point as an instructor in the Department of Mathematics. LT Nicholas soon became known to his students as a "dedicated teacher, sympathetic in appreciation of difficulties and gifted in ability to explain fundamental concepts in easy terms." He emphasized the essential simplicity of mathematical structure in a way that left an "enduring impression" with cadets. It was during this tour that LT Nicholas attained fame and notoriety as a distinguished mathematician. LT Nicholas was assigned as one of three coaches for the group of West Point cadets who were chosen to participate in the 1933 undergraduate mathematics competition between Harvard University and USMA. This competition turned out to be the first of the annual Putnam examinations. LT Nicholas was assigned the responsibility to train the cadets on analytic geometry, an assignment referred to as "line" coach by a New York Times reporter. West Point won the competition decisively as LT Nicholas, among others, received special praise from then Army Chief of Staff, Douglas MacArthur. Another amusing anecdote involves LT Nicholas and a colleague as they used calculus and statistical experimentation to determine the number of pennies in a glass bowl at a local department store contest.

The pair was able to determine the internal volume of the bowl and then determine the probability distribution of pennies poured at random into a bounded three-dimensional space. Together, to the delight of their supporters, the pair won first prize in the contest; a brand new 1935 Ford automobile!

In 1935, CPT Nicholas returned to Fort Sill as a student in the regular course at the Field Artillery School, where he graduated first in his class. As a follow-on assignment, he served as a

member of the Staff and Faculty of the same school. After completing Command and General Staff School at Fort Leavenworth in 1940, he departed on temporary duty to the Corps and Army Maneuvers in Louisiana. During 1940-41, MAJ Nicholas was the S-4 and then S-3 of the 8th Division Artillery at Camp Jackson, South Carolina, prior to returning to West Point as an Associate Professor of Mathematics.

When the attack on Pearl Harbor occurred in 1941, inquires reached West Point from mathematics teachers throughout the country who desired advice on how to adapt their instruction to military purposes. To assist in providing a comprehensive answer, LTC Nicholas prepared a pamphlet on Military Applications of Elementary Mathematics. This document was later published by the Institute of Military Studies and widely distributed to colleges, schools and Army and Navy training centers throughout the country. This assignment at West Point was shortened to one year due to World War II.

LTC Nicholas reported to the War Department General Staff for duty in the Military Intelligence Division in 1942. LTC Nicholas soon became recognized as a pioneer in scientific intelligence, "the process of unraveling secret characteristics of the enemy's most advanced weapons still in the development stage." During the next four years, COL Nicholas was twice awarded the Legion of Merit for his exemplary and outstanding service to the nation. Throughout this assignment, COL Nicholas worked in an environment of physical sciences, engineering, and mathematics, all in a context of advanced research and development. In 1946, COL Nicholas was selected to serve as a member of the original organizing team for national Central Intelligence until his appointment as Deputy Assistant Director of Central Intelligence, where he served until 1948.

During 1948-59, COL Nicholas served as the second professor and Deputy Head of the Department of Mathematics. In 1959, he was chosen to head the department. COL Nicholas tenure has been classified as "dynamic, characterized by rapid and systemic adaptation of the mathematics program to the higher demands of modern science, engineering and management." Expert in his knowledge of educational needs in the military profession, he instituted methods and advances that raised the mathematics to a state described by a Governor of the Mathematical Association of America as "the finest engineering school in the country."

COL Nicholas was a very skilled and competent author. In addition to the many professional articles appearing in the American Mathematical Monthly, Transactions on Education of the Institute of Electrical and Electronic Engineering, and Field Artillery Journal, COL Nicholas sixteen hundred page textbook on Differential and Integral Calculus constituted a "major contribution to undergraduate education." The book was designed explicitly for the method of instruction at USMA, a method very different from almost every other academic institution in the nation. In the late 1950's and early 1960's, COL Nicholas was a close observer of the international educational ferment known as the "Revolution in Mathematics." COL Nicholas worked closely with the Mathematical Association of America Committee on Undergraduate Programs in Mathematics. In the Mathematics Department he was able to initiate a sequence of pre-planned annual changes in the course offerings and structure designed to keep USMA in the vanguard nationally. COL Nicholas was able to complete this college mathematics upgrade at USMA over a seven year period. During this evolutionary process, he instituted the first program

of mathematics electives in the Military Academy's history. Furthermore, his modernization in statistics, linear programming and electronic computer work outpaced the advances in comparable areas among colleges throughout the country. "As the architect of these changes, COL Nicholas brought to the task a professional knowledge of modern scientific trends in the armed forces, coupled with creative insight into the worldwide revolution in mathematical thinking brought by electronic computation." COL Nicholas philosophy on education can be found in several of his articles in professional journals. He always emphasized to his instructors, as well as his students, "that the precision of mathematics and its communication of abstract thought constitute an intellectual discipline of special importance in developing the mental qualities and attributes that cadets must acquire in order to become successful regular officers."

COL Charles Nicholas retired on September 30, 1967 after more than forty-two years of continuous service as a regular Army officer. His versatile military career included field artillery command and staff positions, important roles in strategic intelligence at the national level, and twenty-nine years as a military educator. COL Nicholas spent twenty-five of those years serving on the USMA faculty, the culmination being selected as the fourteenth Head of the Mathematics Department.

Publications:

Special Topic Memorandum's of Nicholas' Differential and Integral Calculus.

Nicholas, Charles, "Another Look at the Probability Integral," American Mathematical Monthly, Volume LXIV, No. 10, December 1957.

Nicholas, Charles, "Mathematics at West Point," Assembly, Fall 1959.

Nicholas, Charles, "More on Taylor's Theorem in a First Course," American Mathematical Monthly, Volume LX, No. 5, May 1953.

Nicholas, Charles; Yates, Robert; "Normal and Tangential Acceleration," American Mathematical Monthly, #4 Volume 58, 1951, page 255.

Nicholas, Charles, "Preparing the Weapon of Decision," Assembly, Winter 1959.

Nicholas, Charles, "Taylor's Theorem in a First Course," American Mathematical Monthly, Volume LVIII, No. 8, October 1951.

Nicholas, Charles, "The Cadet and the Orbit," Assembly, Fall 1959.

Nicholas, Charles, "Six Hundred and Eighteen Major Generals," Assembly, January 1952.

References:

Assembly, Volume XLVII, No. 5, February 1989, page 127.

Cullum's Register, Volume VII, page 1939.

Jannarone, John, "Nicholas, head of mathematics department, Retires", Assembly, Volume 3, Fall 1967, page 14.

West Point General Orders announcing retirement of Nicholas, 30 September 1967.