

1035-Z1-1617 **Paul D. Olson*** (pdo2@psu.edu), P.O. Box 11120, Erie, PA 16514. *Surreal Numbers and Combinatorial Game Theory in Undergraduate Research Projects at Penn State Erie.*

Surreal numbers and combinatorial game theory give undergraduate majors (in mathematics , engineering , and computer science) an opportunity to study mathematics outside of the "standard" undergraduate mathematics curriculum . In addition to studying the properties and strategies of specific games , the student encounters the partial ordering of surreals and the recursive nature of the definitions of surreal numbers . Students also learn to analyze game positions (or a series of game positions) using sequences of surreal numbers . In this talk , the studies of 3 undergraduate students will be summarized . (Received September 20, 2007)