Russell Euler and Jawad Sadek  
*An Extension of the Periodicity of an Extended Fibonacci Family,*  

**Abstract**

The Fibonacci congruence $F_{\phi(m) + n} \equiv F_n \pmod{\frac{m^2}{d}}$ has been extended to Pell numbers, Lucas numbers, and Pell-Lucas numbers, where $\phi$ is the Euler phi-function, $m = a^2 - a - 1$, $d = (2a - 1, m)$, $a \geq 2$ is an integer, and $(x, y)$ denotes the greatest common divisor of the integers $x$ and $y$. We prove that the generalization holds for a larger class of integers than the one containing the integers of the form $m = a^2 - a - 1$. 