

# 1 Notes on Convergence of Taylor Series

The  $n$ th polynomial for a function where  $x = x_0$  and as the  $n$ th term increases, more of the derivatives begin to line up. We can assume that,

$$f(x) = \sum_{n=0}^{\infty} \frac{f^{(n)}(x_0)}{n!} (x - x_0)^n$$